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Editorials

NO FINER RELATIONSHIP EXISTS THAN THAT BETWEEN DOCTOR AND PATIENT

There are few, if any, relationships in life more individualistic than that between Doctor and patient. In the ordinary case, the selection of the doctor is a free choice, and on the other hand the doctor serves without compulsion. Both are free agents. The relationship is one of mutual confidence. It may be terminated by the will of either at any time. For these reasons, it is natural to believe that in the medical and dental professions individualism will continue to find stout champions, both as doctors and as citizens.

And the more you champion individualism in dentistry, the better citizen you will be.

Outside of the home, school and church, life does not afford a finer relationship than the relationship between doctor and patient.

Hon. Samuel B. Pettengill,
Bulletin of the Chicago Dental Society,
March 10, 1938.

TRYING OUT SOCIALIZED MEDICINE ON THE FARMERS

Trying it out on the farm instead of on the traditional dog, is exposed as among the many desperate measures attempted by radicals in power at Washington to socialize American life and American institutions. That these measures are waged at the expense of national health as well as morale, apparently mean nothing at all to greedy opportunists to whom the overthrow of the world's greatest nation is as the childish toppling of a house of cards.

That conservative publication, *The Saturday Evening Post* that was born when the republic itself was young and that introduces itself as "An American Institution," carried a revealatory article in its issue of December 17, 1938. Captioned "Rehearsal for State Medicine" and

signed by Samuel Lubell and Walter Everitt, by especial permission of *The Saturday Evening Post,* copyright, The Curtis Publishing Co., generous excerpts are reprinted here. A great many of us, even those as near the Dakotas as are residents of Illinois, probably have not realized the extent of the effrontery from bureaucracy forced upon the farmers there, and on the way to further extension.

The article begins as follows:

"On October thirteenth, reporters covering the Department of Agriculture were handed a three-page press release announcing the approval of plans to provide emergency medical care for 77,000 Farm Security Administration clients in North and South Dakota *for two dollars a month.*

"The handout quoted Administrator W. W. Alexander as basing the programs on the experiences of the FSA with similar plans 'in these and sixteen other states,' and developing them because it was found that 'good health is a necessary part of a family's rehabilitation.' *The FSA's maiden name, you will recall, was the Resettlement Administration.*

"Tucked away on the last page of the release was this single sentence: *'The pooling of funds serves as a form of voluntary insurance against disaster for the patient and against unreasonable hardship for the doctor.'*

"Thus was the paying public let in on the secret that, though Congress and the nation are still debating the prickly issue of state medicine, one Federal agency has jumped the legislative gun and instituted its own program of socialized medicine. While doctors and lawmakers and the millions who will be affected have been weighing the pros and cons of the question, *the Farm Security Administration has been fostering a* system of health insurance that today is guaranteeing or subsidizing the medical bills of perhaps half a million farmers, their wives and children—and occasionally visiting relatives.

"Working with unaccustomed modesty and publicity shyness, *the FSA, in effect, has staged a gigantic rehearsal for health insurance. It has* brought together some 3000 country doctors and more than 100,000 families in twenty-odd states. It has given them a chance to show what would happen if a health-insurance law were enacted for them tomorrow. And the performance has been truly startling. Friends and foes of socialized medicine alike will be surprised.

"Something like 150 of these health-insurance cooperatives have been peppered around the country in the last two to three years. Most of them cover between 100 and 200 households. Those in the Dakotas have been caring for 58,000 families. As announced by Doctor Alexander, 19,000 more eligibles have been added, bringing the total to one half the farm, or about one fourth the entire population of the two states. Our newly elected Seventy-sixth Congress may be asked to decide whether this country wants some form of state medicine, but the Dakotas have it.

"Although styled cooperatives, none of these groups whose tribe increaseth weekly really has any identity apart from the Farm Security Administration. They have been financed by FSA loans, organized and managed by the agency's personnel and their members drawn from FSA clients. These are farmers a shade or two above the relief level, with cash incomes of generally less than $500, and who have been deemed worthy of rehabilitation.

"By the end of June, Dr. R. C. Williams, FSA's medical adviser, figures on having 150,000 of the half million Farm Security families in the country in his fold. In more optimistic moments he numbers his potential flock at 200,000 farmers, nearly 1,000,000 persons with their dependents. Averaging about twenty-five dollars per family, as he estimates, that would run this year's tryout to between $3,000,000 and $5,000,000.

"FSA health-insurance cards already have come to mean bread and butter to several hundred doctors, cake to more than 2000. They *have been accepted* by physicians 1000 miles away and in Canada. A single year's work with *a submarginal Arkansas group is credited with the dubious boon of bumpering the baby crop* by 50 per cent. Some co-operatives soon will celebrate their third birthday; others have been buried deep under heaps of unpaid bills. Identical plans are being hailed as the salvation of farmer and doctor, and denounced as 'making chiselers of both patient and physician.'

"As the biggest group-health venture ever undertaken in this country, fathered and financed by a Federal agency, what the FSA is doing affords a rare glimpse into what the future may

bring. A fair review of what has happened should help in deciding whether health insurance is good or bad. That is the purpose of this article—to swing the spotlight on a performance that, until recently, was diligently shielded from public view; to present the facts, letting the morals point where they may.

"That these health associations have been set up at all and in such abundance is astonishing in itself. For several years leaders of organized medicine have waged an unceasing fight against the perils of state medicine. Many doctors did repulse the FSA's blandishments as 'an entering wedge to regimentation.' Yet, through it all, one man—a former Alabama physician who never could summon courage enough to collect bills from his patients—managed to sell twenty-one of the forty-eight state medical societies some form of health insurance.

"True, the programs weren't labeled as such. But to Dr. Ralph C. Williams health insurance by any other name has been just as sweet. As author, director, chief prompter, leading actor, and suppressor of publicity, Doctor Williams has turned in an amazing personal performance.

"To describe in full the varied Williams repertoire would be like droning through a catalogue of health-insurance schemes. Fortunately, virtually all the action has centered around two types of organizations—state corporations and county pools.

"Largest and most successful of the statewide co-operatives is the Farmers Mutual Aid Corporation of North Dakota. Until recently the FSA advanced the corporation one dollar a month per family to cover emergency medical care. A uniform fee schedule, roughly one-third under the regular rates, was agreed upon. Doctors submitted their bills, which were prorated against the money available each month. Under the revised program, effective as of November first, the FMAC will be advanced two dollars per family each month, and services will be expanded to include hospitalization, emergency dental work and drugs. Doctors are to get 51 per cent of the money, hospitals 37 per cent, dentists 8, and druggists 4 per cent.

"South Dakota's Farmers Aid Corporation will differ only in the distribution of funds—51 per cent to doctors, 30 per cent to hospitals, 15 per cent to dentists, 3 per cent for drugs and 1 per cent for home nursing. Also modeled after the FMAC, the Agricultural Workers Health and Medical Association was established last summer to furnish emergency care for about 30,000 migratory farm families in California and Arizona. Doctor Williams described this work to us as 'really just giving relief' and 'terribly expensive.' The initial grant was $100,000.

"Throughout the South about 12,000 families have been organized into county co-operatives. Loans are made by the FSA on a sliding scale of ten, twelve and fourteen dollars per family, depending on ability to pay, plus one dollar extra for each person up to eight. Above eight there is no charge. Each county co-operative maintains its own pool, divided, as in the Dakotas, into equal monthly allotments. Generally, 20 per cent is set aside for emergencies and hospitalization.

A DOCTOR BY THE YEAR

"Doctors charge their regular fees, but face prorating if the total bills exceed the quota. No cards are issued, physicians receiving lists of eligible clients. Except for a few counties where families are expected to or have agreed among themselves to use one man, free choice is permitted.

"Arkansas alone, according to Kennedy, had pools in fifty-nine of its seventy-five counties, embracing 6500 farmers, on October twenty-fifth. He estimated that number again was covered by more than fifty pools in Mississippi, Texas, Alabama, Georgia and Tennessee. State medical societies in New Mexico, Colorado, Louisiana, North Carolina and Virginia also had approved the plan, and additional pools were being formed there.

"A third type of program is being tried by the FSA with about 2800 families in twenty-three counties in Missouri, Indiana, Ohio and Iowa, but so new is it that it hasn't undergone a real test. Still the scheme will bear watching. The patient selects a doctor and brings his entire family in for thorough examination. The doctor estimates the medical needs, the FSA the family's ability to pay. A maximum sum is arrived at for which the physician agrees to furnish regular home and office care—major surgery and hospitalization are excluded—for a full year.

"The money advanced by the FSA is deposited with a specially appointed trustee, but is not pooled. Nor does the doctor necessarily get the

entire budget allotment. He submits his bills at regular fees and is paid by the trustee. If, at the end of the year, any part of the money is left, it is returned to the patient. Where funds are exhausted, however, the doctor agrees —to quote from the Mercer County, Missouri, plan—'to continue to render services for the rest of the one-year period without additional compensation.'

"Just past fifty, soft-spoken, partially bald, Doctor Williams looks and acts the picture of mild inoffensiveness. He collects Confederate stamps for his son and lets his wife buy his panama hats. His $6816-a-year salary enables him to maintain a comfortable home in the Chevy Chase section of Washington. He practiced medicine in Alabama for four years before the war. With almost prophetic reasoning, he chucked it for public-health work. As he recalls it now, 'I liked treating people, but couldn't bring myself to ask them for money I knew they needed more than I did.'

"After three years with the Alabama State Health Department, Doctor Williams decided to try for the U. S. Public Health Service. His chief, a one-time surgeon in the Confederate Army, was so outraged at the idea of a son of Alabama wanting to work for that 'Yankee Government,' that Doctor Williams had to quit outright and spend several jobless months in Washington boning for the Health Service examinations. He passed them in 1917, in time to be placed in charge of a soldiers' camp in Illinois. The 1920 Health Almanac which he compiled was still wet off the presses when several cases of bubonic plague broke out in New Orleans. Doctor Williams was sent down to ratproof the old city. His later assignments were more to Mrs. Williams' liking—personnel work in Washington, field inspection and, in 1927, as Assistant Surgeon General, editing reports. The post carried with it the unofficial duty of serving as the Health Service's 'luncheon speaker.' In nine years Doctor Williams addressed almost 200 groups. It was a training that was to stand him well after he was loaned to Resettlement in 1936.

"However shy Doctor Williams may have been in dunning his patients, no such timidness has possessed him in dealing with his medical colleagues. The very diversity of the programs suggests that he has known when to compromise and when to drive a hard bargain. In South Dakota he took advantage of the economic distress of the physicians to hammer home a trade that was too tough to stick. For one dollar a month per family he asked essential medical care, hospitalization, emergency dental work and drugs—the things being paid two dollars a month for now. Like hungry actors, the doctors accepted their meager bits. When bills began to be prorated 50 and 60 per cent, they walked out on the producer.

"The pooling plan was the Arkansas Medical Society's peace offer, if the FSA would agree to terminate contracts it had worked out, verbal and written, with fifteen doctors in the state. Where the opposition of the doctors was most bitter, Doctor Williams took what he could get —the budget scheme."

Yes, "The Budget Scheme." From even the abridged quotations here, the name would be more appropriately called "The Badger Game."

MEDICINE IS A WELL-DEFINED PROFESSION

The District of Columbia Medical Society has asked the United States District Court at Washington, D. C., to render the decision as to whether the practice of medicine is a "science" or a "trade" within the meaning of the Sherman Anti-trust act.

In this request the medical society pointed out that "the practice of medicine and surgery is a well-defined profession and it has been recognized and accepted as such generally by the courts of the United States, including the United States Supreme Court." Further that the practice of medicine "is separate and distinct from any of the callings or occupations which may be denominated "trade."

The Medical Society submitted the request to the courts as a part of their defense in connection with the recent grand jury investigation of what is called "the activities of that society and the American Medical Association involving Group Health Association, Inc., a medical cooperative formed by employees of the Home Owners Loan Corporation."

It is perhaps pertinent to inquire again why the government activities focus themselves so strongly on medicine in the battle for the underprivileged. What about dentists, druggists,

nurses, newspaper services and the men who manufacture and sell clothing, accessories, food, shelter and amusements?

"Why?"

"Echo answers 'Why?'"

EDUCATE THE LAITY AS TO THE EVIL OF TAX SUPPORTED MEDICAL PRACTICE

Physicians have double work to do at the present time in educating the laity as to the evils of government controlled medical practice and allied fallacies because so many doctors have played the sluggard in this regard for so long a time.

An intensified public relations campaign explaining medicine and its works to the laity is needed now. It would be an eleventh hour remedy but it's worth the trying before the great and gullible American public is sold completely and irretrievably "down the river" of socialized medicine.

Wisely has it been said:

"For years the medical profession has failed to take the leadership in molding public opinion. This applies to a degree to every community. The public hasn't warmed up very much to aloof physicians and their viewpoints. Valuable contacts have been overlooked—even avoided. This situation can be corrected by the medical profession itself through the efforts of individual physicians.

"The most important and effective kind of public relations can be carried on daily by individual physicians. If the physicians in a given community are unable to get adequate publicity in the local press, arrange for opportunities to present their views before lay groups, and win the confidence of the people, there is no chance of accomplishing these things through a second-party, regardless of his ability and influence.

"Organized activity and the use of competent outside help are useful and necessary factors in any public education campaign but they are of secondary importance. The major role must be played by the members of the medical profession themselves. The outcome will depend pretty largely on how well they do their job.

WHAT HELPS BUSINESS HELPS THE DOCTOR

Merle Thorpe in *Nation's Business*, December, 1938, under the title, "Let's Keep the Brakes in Good Order" says:

Wherever an attempt has been made to overthrow a social order, whether an American revolution or a German putsch, the revolutionists invariably follow two lines of attack. One is to kindle hate against those who symbolize the existing order. The other is to enlist the physical force to get control.

We see illustrations wherever we look. In Russia, Lenin fired the workers and soldiers with deadly hate of aristocrats, land owners, and the intelligentsia. In Italy, Mussolini fanned Italian emotions to white heat by stigmatizing strikers and others of his old friends in the labor unions as Communists seeking to Russianize Italy. Hitler imbued the Germans with loathing of the Jew as the personification of all evil.

We are changing our social system in the United States, and by the same methods. Whether for good or ill, there can be no mistaking the historic technique of revolution.

Our hate campaign has been directed at business and the business man. Seldom a day has passed or an hour on the radio that the public has not been exhorted to hate business. Bankers were "money changers" to be driven from the temple; investment bankers appropriated the widow's mite without conscience; the "power trust" was bleeding the people white; commercial aviation was without morals; manufacturers were exploiters of child labor, operators of sweat shops and labor tyrants; lumber, oil and coal men were "barons"; stock and grain exchanges were gambling houses; retailers were gougers and chiselers; steel and chemical companies, fomenters of war; railroads mismanaged; telephones, too much power for the public good; and the stage now set to complete the cycle by harassing insurance institutions. Lawyers, newspapers, every agency of free opinion which might counteract the campaign of hate have been abused.

No epithet Hitler could invent to describe the Jews was more hate-arousing than those we applied to business men. Perhaps the high point was reached when a federal administrator called them "little men with rodent blood in their

veins." Our newest administrator was milder when he called the employer who couldn't pay the fixed wage "indecent."

To harvest the sowing of hate and overturn the established order; revolutionists must march with muskets. Black shirts, brown shirts, secret orders, storm-troopers, seizure of the army, their part we all know. But we, being a wealthy nation, do it differently—as Professor Tugwell said in an unguarded moment, by "subterfuge" —painlessly, but just as effectively. Our muskets are money.

The head of P.W.A. does not march with armed men into 124 municipalities to confiscate private power plants. He marches in with $160,628,752. Retail stores are not taken over by force as in Russia; we establish competitive cooperatives with money that was appropriated "to relieve distress." Bands do not yield up their buildings to armed forces, they deliver their depositors' money to the Secretary of the Treasury, and face competition in 19 great federal lending agencies.

We, as American citizens, would fight an overturn to the Fascist state by armed troops, yet, we have complacently viewed the march which has taken us three-quarters of the way down the road to Fascism. Washington today controls and allocates most of our working capital; it fixes wages, fixes hours, and prices, and in 250 different lines of business. Washington is moving surely into state capitalism that marks the totalitarian countries of Europe.

Those who deplore the changes taking place in our American system of free enterprise should continue to help dispel the hate against business, should join the movement to show that business is beneficient, not malevolent, that "What helps business helps you," and, second, move to deprive the revolutionists of their muskets by demanding tax reduction and that expropriation of savings through federal borrowings be stopped.

Recent events show that democracy can apply the brakes, but there must be no let-down in keeping the brakes in good working order.

THE 1939 ANNUAL MEETING

Arrangements are now well under way for the 1939 Annual Meeting to be held in Rockford, May 2, 3, 4, with headquarters at the Faust Hotel. All section officers, local committees and others responsible for the programs to be presented, are working diligently in their efforts to make this an outstanding meeting. Both the scientific and technical txhibits will be displayed in the Faust Hotel—and all section meetings will be held there. The Hall of Health will be conducted in a arge nearby building and will be open to the public for the entire week, or from May 1 to 6, and will remain open until 9:00 P. M. each day.

Two scientific sections have been added during the past year with the consent of the House of Delegates,—Section on Pediatrics and Section on Obstetrics and Gynecology thus making a total of seven scientific sections which will conduct their own individual meetings.

The Secretaries' Conference which has formerly been held on Tuesday morning will be conducted this year as a dinner meeting on Tuesday evening. The officers of the Conference are arranging an interesting program which will be sent to all secretaries in the near future and will be of interest to all members of the society even though they are not officers of the county medical societies.

The preliminary program for the meeting will be published in the March ILLINOIS MEDICAL JOURNAL and the official program will appear in the April number of the Journal, owing to the fact that the meeting date is the first week in May.

Reservations are now being made by the Rockford hotels and it is advisable for all members expecting to attend the annual meeting to write to the hotel committee telling the type of accommodations they desire, and same will be promptly secured. A list of this as well as other local committees is printed in this number of the ILLINOIS MEDICAL JOURNAL.

It is hoped that every county medical society in Illinois will be well represented at the annual meeting in Rockford, and more information concerning the meeting and the preliminary program will appear in the March ILLINOIS MEDICAL JOURNAL.

TAKES NO CHANCES

He: "When I left my last boarding place, the landlady wept."

Landlady: "Well, I won't need to. I always collect the rent in advance."

MEDICAL ECONOMICS

H. M. Camp, M. D.
E. P. Coleman, M. D.
W. M. Hartman, M. D.
J. R. Neal, M. D.
I. H. Neece, M. D.

Edited by the Committee on Medical Economics
of the
Illinois State Medical Society
E. S. Hamilton, M. D., Chairman
Kankakee, Illinois

R. K. Packard, M. D.
Ralph Peairs, M. D.
C. B. Ripley, M. D.
C. S. Skaggs, M. D.
C. E. Wilkinson, M. D.

Address all letters and communications to the Chairman.

The promptness with which Senator Wagner had a Bill to present to the Senate for action after the recent message of President Roosevelt on the subject of the extension of medical care should convince the most skeptical in the medical profession that the plans are already on the way for an attempt to change the manner in which medical care is to be delivered to the public. The suggestion in the message of the President are practically identical with those of the Interdepartmental Committee, which met last summer in Washington. If the recent action of the House of Delegates of the American Medical Association, followed by the conference of its appointed committee with Miss Roche and her committee, had any results they are not visible at this time.

Of course, the outcome of this entire attempt is impossible to prognosticate at this time. From the action of both the House of Representatives and the Senate on the appropriation bill for the PWA, it is evident that Congress is asserting its rights and assuming its responsibilities to a degree that has been sadly lacking for the past six years. If this independence of action can be increased to the point where all legislation will be considered fully and decided on its merits, there is hope. However, a return to the MUST SYSTEM of recent years would spell disaster for the public as well as the medical profession.

The propaganda mill for such legislation has been going at full speed the past few months. Scarcely a newspaper or periodical has failed to have articles, if not editorials on this subject. Unfortunately a large percentage of the magazine articles have been blatant propaganda by experts. While such articles do not fool the medical profession, the casual reader must be impressed by both the number and the readibility of the articles. They cannot be expected to be able to extract the real truth from the articles. The medical profession is not without friends. The *Chicago Tribune* of December 31, 1938, had a most fair editorial on the dangers of the proposed plan for the socialization of medicine and explained most clear and fully the dangers of the proposed plan to the public, the medical profession and the form of government. It would be well for every member of the medical profession to reread this most able article.

The magazine, *America's Future*, has contained two most excellent articles in the last two issues of the dangers of the proposed plan. The first was referred to in last month's article. This month, Dr. Charles Gordon Heyd of New York has a fine article on the subject, "Do you want your own Doctor or a Job holder?" The American Medical Association has sent out a large number of copies of this issue of *America's Future* and it is to be hoped that most of you have read the same.

The *United States News* continues to have frequent articles on the subject of Socialized Medicine. While not always in agreement with their policy and editorials, we must admit that they have been most accurate in their reports and prognostications. They think that some legislative action will be taken on this subject by the present Congress. We hate to admit the accuracy of this statement, but we should be ever on the alert to verify or refute the same. Also, we should continue to use all our influence on our representatives in Congress to stop any action during the present Congress. The exact manner of exerting this influence is highly debatable and must be decided by the individual. But certainly every legitimate opportunity should be seized to present to the members of the Congress, both the reason for the opposition of the medical profession as well as the practical agreement by the entire medical profession of the country to opposition.

The Public Relations Bureau of the Medical

273205

Society of the State of New York have recently printed a small pamphlet by J. Weston Walsh entitled "On the Witness Stand." It is a most complete answer to the numerous questions that are asked the medical profession by the laity on this subject. These can be obtained from the above named society at 2 East 103rd Street, New York City, for seven cents each in order of fifty. There is no better way that a County Medical Society could spend a few dollars than to order enough of these pamphlets to furnish a copy to every member of the medical society as well as a few extra for the interested laity.

The annual meeting of the Northwest Regional Conference will be held at the Palmer House in Chicago on Sunday, February 12, beginning at 9:00 A. M. This will be attended by medical men from all of the states in this part of the United States. There is no definite membership and anyone interested in Medical Problems is most welcome. It would seem that the officers of County Medical Societies would be most amply repaid for the time necessary to attend such a meeting, for all of the live problems will be presented for discussion. We hope that there will be a fine representation from Illinois.

Through the kindness of the editors of *Nation's Business* we are presenting this month an article by Ernest L. Shore, B.S., M.D., entitled "A Doctor Looks At Socialized Medicine." It is an able article well presented and worthy of the time and attention of every man to whom this JOURNAL comes. It has already been sent to the members of the Council and has been much appreciated. Try to read it.

DO NOT FORGET THE MEETING OF THE NORTHWEST REGIONAL CONFERENCE AT THE PALMER HOUSE, CHICAGO, FEBRUARY 12.

E. S. Hamilton, M. D.,
Chairman.

DOCTOR LOOKS AT SOCIALIZED MEDICINE

The question, "How can medical service be assured to all?" is just one of many which those with Utopian aspirations now propose. Proposed answers usually take the form of some cooperative health scheme. All these schemes, I have found, have one invariable feature in common. Those who pay the money assume an extra burden—paying for those who manage and spend the funds. All that they hold out to the paying contributor is the gamble that he will receive more than he pays for. As in most gambles, the odds are against him.

It makes no essential difference if a government bureau manages the assessments. In any case the funds are controlled by people who have not had to earn them. In any case there is a vast difference between spending one's own money and somebody else's. That is why those who want good medical service when they need it keep the mastery of their own dollars. That way they can reject unsatisfactory service. They do not have to pay twice to get adequate service, because "He who controls the purse calls the tune."

There is much to be said for the collective principle where accidental injury or death is concerned. Here it is obvious and tangible when something has happened. But what constitutes sickness? The difference is that nothing need happen to an individual for him to obtain service. A person becomes "sick" of his job, of his environment or his family relationships. He goes to see the doctor who, after much questioning and examination, declares he is not sick. The physician renders service in determining the absence of sickness and should be paid on the basis of each service. This is not true under any form of social medicine.

PSEUDO-ILLNESS ENCOURAGED

UNDER medical relief administration, bureaus often request examinations and opinions when no illness is to be found. If the doctor didn't prescribe, he is told no compensation is due him. This encourages doctors to falsify. It is the experience of representative physicians in Germany and Austria, under socialized medicine that 70 per cent of the persons visiting their offices are not sick. They say that not more than five per cent of these are conscious malingerers. But the result is that in one seven year period the use of x-ray increased 20-fold.

This does not represent actual illness, but a desire to get something back for something paid. Hospital admissions in the United States run less than eight per cent of the population. It is a great mistake to expect 92 per cent of our people to pay hospitalization insurance, either

into cooperative funds or in taxes for a government bureau, and receive nothing in return. But human nature in this country is not greatly different from that in Europe. Already we can observe the same signs here. Hospital admissions in 1937, under increased relief administration, and with more hospitalization groups, exceeded 1936 by 2,000,000. Many of these people could have remained at home and obtained the same recovery at less cost to society.

It probably would require a generation of social medicine in this country to destroy that sense of personal responsibility for which our people have been noted and to develop in its stead the greediness, the feeling that assessments create a right to service, which are concomitants of social schemes long in effect in some European countries. Social medicine creates its own illnesses. It makes of the doctor a policeman guarding the treasury against his patient. The patient is trying to make his complaint look big in order to get as much as possible for his—and other people's—money. This breaks down the mutual confidence between doctor and patient which spells efficient service.

Bureaucrats believe that medical service can be standardized as a can of tomatoes or a keg of nails. But it will differ as individuals differ, in all gradations from the failure to the perfect. It follows that those giving the more thorough and lasting service will ask greater rewards than those doing inferior work. But with bureaucratic control, compensations are fixed the same for skillful and unskillful performance. As demands become too great for the treasury to bear, will the fund managers reduce their own salaries? No, the first reductions will be made in payment to the doctors and hospitals. With poorer rewards the quality of medical service will be reduced.

The European doctor under social medicine approaches his day's work with the sense that he is primarily a clerk in the government bureau. He obtains his stipend whether or not he serves well. He realizes that, in some fashion, he must serve from 40 to 80 patients a day and he is impressed with the futility of it all. In Germany I am told it is not uncommon for a doctor to see 80 patients in one afternoon's office period. Under such circumstances a patient gets "a look and a bottle." Even the moderately sick are shunted off to the hospital.

INSURANCE IS MORE COSTLY

DIRECTOR Weber of the Union of Insurance Bureaus of Aix la Chapelle, Germany, reported in 1928 that in Germany, "35,000,000 insured pay four times as much as 30,000,000 not insured. The insured patient uses three times as much medicine."

Office holders in the medical administrative personnel exceeded doctors in 1935.

In England only those panel doctors in the patient's area are available to him, and once designated, he cannot change for a year. Records of his ailments are public property. He is no longer an individual, but one of 50 or more requesting attention. When hospitalization is necessary there is no choice. Only general practitioner service is available. To obtain a specialist requires approval of the supervisor, whose business it is to conserve the funds. The patient is dependent upon a robot who takes his orders from a government-directed insurance cooperative.

The Secretariat of the League of Nations has declared the United States to be the healthiest nation in the world. In the face of this record, social system advocates try to sell the country on procedures rather than results. Their method erroneously presumes that when the *quantity* of medical service is increased the *quality* will remain constant.

For many years it has been accepted that, in a given year, 40 per cent of the people of this country visit no one for their health. From this it is reasoned that from 40 to 50 per cent cannot afford medical service. The truth is they either do not need such service or else do not want it. Conflicting figures in some of recent surveys made at great waste of the tax-payers' money appear to be the result of coloring to suit the socialist objectives of those higher up.

Already we are being carried a long way toward the socialization of health services in America. In addition to the wide variety of county and state institutions; the tax millions that go to subsidize private hospitals in the upkeep of their public wards; county, city, state and federal public health departments; medical departments of the Army, Navy and National Guard; and the colossal expenditures for the

benefit of war veterans, we now have medical features in Social Security and relief administration.

The annual tax bill to support all these activities runs to a stupendous figure. Therefore it should be realized that so-called free services are not free. They must be paid for, always with an additional 30 to 40 per cent for administration and inefficiency. It costs Atlantic City, for instance, $32,380 to administer $108,000 in one year.

With all these billions spent collectively for health, why are we not a nation of perfect people, physically? Why are we instead so much in need of a biological purge? Because it is impossible to buy our way to perfect health. There is a large hereditary factor in health. Statutes will not make the public medical minded, however available they make advice and help.

These social schemes are not inventions of the organized medical profession. They are part and parcel of the cooperative experiment called socialism or collectivism which attempts to avoid the rigors and chastisements of Mother Nature in her effort to improve the human race. It is not new; decaying civilizations have destroyed themselves in the effort to preserve the weak at the expense of the strong.

Just now we hear much of three-cents-a-day hospitalization schemes. Private insurance is based on risk and frequency with which benefits are used. The more hazardous an occupation is, the higher the premium rate for a definite coverage. These group hospitalization plans ignore such precepts of insurance. They discard both risk and ability to pay and are therefore economically unsound.

The three-cent rate is based on an expectation of approximately 6,000,000 hospital admissions a year but they are increasing so rapidly that in 1937 there were 10,000,000, and in a few years, under the present socialization impetus, it may easily reach 15,000,000. That will bankrupt the socialization plans. Then the politician will step in with government subsidies, because he sees a great source of power waiting to be capitalized.

Civilization's greatest handicap is the fact that it cannot withstand the promulgation of fool ideas oft repeated. Liberty has nowhere been so prostituted as by government, in the name of social justice. When once given to government, liberties rarely can be recovered. Bureaucracy once established is seldom abolished. Usually it is absorbed by some larger and more powerful bureau. Such is its self-perpetuating character.

The cost must be paid entirely by individual effort. Those who have tasted power do not want to return to that community of effort upon which government feeds. Instead, they keep on maintaining themselves by dispensing new jobs—unearned plums—to their supporters.

City, county, state and federal governments are symbols which mean you and me, yet the average person when given a chance at the public treasury will dissipate the funds as freely as if the government were a separate entity with independent earning power. Really it is the most hungry parasite that saps the fruits of our labors. Today about 30 per cent of the people's income goes to its support. Government's unlimited taxing power is the power to destroy. The more people in government the more who are removed from production, the fewer the producers left to carry the load.

LEAVE A CHANCE TO ADVICE

We must unshackle the individual and permit him to move forward to meet his necessity, because it is by the stimulus of necessity that civilization advances. Eliminate all the licensing systems not definitely necessary for the protection of society. Remove all unnecessary controls and restore government to its rightful principal function of police duty.

Let us beware least, in our desire to be kind to the weaker brethren of today, we are more than unkind to the brethren of tomorrow.

The right sort of medical service can best be assured to all by keeping the mastery of our own dollars. The future of public health must center around the family physician who with his bag and office equipment still cares for 92 per cent of the nation's illness.

The treatment of illness must remain a profession. Now what constitutes a profession? Personal service! It cannot be standardized. There is an intellectual character to this service, with considerable self-direction and individual responsibility. There can be but one master in

the House of Medicine and that is the doctor himself.

ERNEST L. SHORE, B. S., M. D.

WINNEBAGO COUNTY MEDICAL SOCIETY

CONVENTION COMMITTEES

Committee on Arrangements

J. S. Lundholm, General Chairman
N. C. Bullock, W. K. Ford, E. H. Weld

Reception Committee

All members of the Winnebago County Medical Society

Registration Committee

A. H. Erickson, Chairman
Bruce H. Canfield — F. J. Carlstrom
J. L. Probasco — Alexander Braze

Information Committee

W. H. Cunningham, Chairman
R. E. Anthony — T. A. Baumann
T. F. Kinley — B. H. Blocksom

Scientific Exhibits Committee

H. D. Palmer, Chairman
Burt J. Canfield — Perry A. Anderson
Charles L. Leonard — Robert C. Fringer

Technical Exhibits Committee

W. P. Burdick, Chairman
A. J. Connell — F. A. Turner
M. C. Lindman — Francis E. Bissekumer

Hotel Reservations Committee

T. Harry Culhane, Jr., Chairman
C. A. Walker — H. W. Edson
Paul T. Johnson

Hall of Health Committee

N. O. Gunderson, Chairman
W. H. Palmer — C. E. Wright
L. S. Greenwood — L. B. Simms
C. L. Leppert — I. B. Ferrias
J. H. Bendes — J. A. Dagnault
H. L. Davis — A. S. Roseborough

President's Dinner

N. C. Bullock, Chairman
J. M. Severson — E. H. Weld
T. H. Culhane

The Stag Committee

A. B. Owen, Chairman
E. G. Anderson — N. L. Sheehe
Warren M. Miller

Publicity Committee

J. H. Maloney, Chairman
H. R. Searle — A. B. Owen
E. W. Goembel — W. J. O'Donnell

Alumni and Fraternity Committee

J. H. Maloney, Chairman
A. M. Swanson — B. H. Blocksom
C. M. Ranseen

Veterans' Dinner Committee

N. L. Sheehe, Chairman
Anfin Egdahl — R. C. Bourland
Carl H. Bartling

Golf Committee

J. H. Vetter, Chairman
Harry W. Warner — E. T. Leonard

SECTION MEETINGS

Medicine Committee

Arthur Pearman, Chairman
C. H. Boswell — H. D. Countryman
Arvid T. Johnson

Surgery Committee

John A. Green, Chairman
M. P. Rogers — S. R. Catlin
E. G. Quattlebaum

Eye, Ear, Nose and Throat Committee

J. M. Severson, Chairman
W. R. Fringer — T. E. Blomberg
J. J. Potter

Public Health and Hygiene Committee

R. M. Bissekumer, Chairman
N. O. Gunderson — Emil Lofgren

Radiology Committee

Harry W. Ackemann, Chairman
Theodore Lang — H. W. VanLandinghim

Pediatrics Committee

T. F. Krauss, Chairman
W. L. Crawford — King G. Woodward
J. H. Garthe

Obstetrics and Gynecology Committee

F. G. Tindall, Chairman

F. L. Heinemeyer A. M. Swanson

J. T. Rankin

SPECIAL MEETINGS

Physicians' Association Committee

W. J. Bryan, Chairman

Sidney D. Wilgus Warren C. Ives

Medical Women's Committee

Ruth Leonard, Chairman

Anna Weld Clara E. Hanstrom

Illinois Medical Editors Committee

W. H. Elmer, Chairman

R. J. Mroz E. W. Fell

Central States Society of Industrial Medicine and Surgery Committee

C. A. Cibelius, Chairman

Homer F. Moore Elmer L. Mertz

Secretaries' Conference Committee

William K. Ford, Chairman

E. H. Quandt

COMMENTATORS SPREAD FALSE NEWS

In newspapers throughout the United States on Sunday, January 8, the column written by *Drew Pearson and Robert Allen entitled "Washington Merry-Go-Round" contained the following item:*

MEDICAL SOCIETY VAINLY TRYING TO COMPROMISE WITH U. S.

Since their indictment last month by a Federal Grand Jury on charges of antitrust law violation, officials of the American Medical Society have made overtures to the Justice Department to compromise the case in out of court agreement.

So far, the negotiations have got nowhere *because of the physicians' insistence that the Medical Society be given special privileges under the law.*

As far as is known in the headquarters office *of the American Medical Association, no official of this Association has made overtures to the Justice Department to compromise the case; neither have the attorneys for the Association, nor has any official been authorized to make overtures or to conduct such negotiations.* A telegram was sent to Messrs. Pearson and Allen calling attention to the misstatements of fact. No answer was received. Mr. Allen was then called on the telephone. He said: "We received our information from the Department of Justice from a source we consider unimpeachable."—*Jour. A. M. A.*, Jan. 14, 1939.

Correspondence

ARMY APPROVED

Monmouth, Illinois, January 18, 1939.

To the Editor:

I have been directed by the Council to inform the physicians of Illinois through the ILLINOIS MEDICAL JOURNAL that the work of the Women's Field Army in their fight against cancer has been given the approval of *the Council at a meeting held on Sunday, January 8, 1939.* The work of the Field Army in Illinois is directed by the Society's Committee on Cancer and the activities are reported to the Society regularly by this committee.

Each county medical society is urged to select a suitable committee to cooperate with and act *in an advisory capacity to the local county captain* and her enlisted personnel.

A short report of the Committee on Cancer pertaining to the work of the Women's Field Army appears in this issue of the ILLINOIS MEDICAL JOURNAL and it is hoped that each member reads it carefully so they may be able to tell their friends about the fine educational work in cancer this group desires to do in Illinois.

Yours very sincerely,

Harold M. Camp, M. D.
Secretary.

WOMEN'S FIELD ARMY

Chicago, January 14, 1939.

This Army against cancer is an organization *that was conceived and organized by the American Society for the Control of Cancer in the fall of 1936. It is a health movement in which* the state medical societies play an official part, *as the Army does not enter a state until its program has been approved by the State Society. Each state division is directed by a medical executive committee which is largely composed of* members of the Cancer Committee of the State Society. In Illinois the State Society's Cancer

Committee directs the work of the Army in Illinois, with the approval of the Council of the State Society.

In this state the Army is organized with a State Commander, Mrs. George Hanly Nippert of Chicago, with vice-commanders in each councillor district, county captains and enlisted personnel. Through an intensive educational campaign conducted by the holding of meetings, forums, newspaper and magazine articles, radio programs and posters, the Army seeks to spread information concerning cancer to the laity, urges periodic physical examinations and thus hopes to bring to the doctor cases of cancer in the early curable stage.

In 1938 forty-three states were participating in the work of the Army and in 1939 it is expected to have divisions in forty-seven states and the District of Columbia. In Illinois sixty-six counties were organized and the program will be carried into many other states in 1939. In April of each year the educational campaign reaches its climax in the enlistment drive. Men and women are invited to enlist in the Army at a fee of one dollar. Thirty cents of each dollar is forwarded to the national headquarters for use in cancer education throughout the country and seventy cents is retained for expenditures in the state under the supervision of the State Executive Committee. No officer of the Army receives any financial remuneration. Much free literature on cancer is distributed, and many meetings for lay education are held.

The councillors of the Illinois Medical Society have co-operated with those engaged in organizing and conducting the Army. Much more good can be accomplished when the entire medical profession lends its support to the work the women are doing, and aids the local community organization by advising with those conducting the campaign in order that their efforts may not be wasted. A favorable word to patients concerning the work of the Army may well be the determining factor in the local success of the Army work. Such support on the part of the profession is earnestly solicited.

Bowman C. Crowell, M. D.,
Chairman, Cancer Committee, Illinois State Medical Society.

THE GOVERNMENT IS IN THE PRACTICE OF MEDICINE STRONG

Long Beach, California,
January 15, 1939.

To the Editor:

You would be amazed if you could read all the news articles appearing in the Pacific Coast papers relative to the attempt to bring about a complete system of tax supported medical practice in California.

You would be surprised to see the hundreds of expectant mothers attending the pre-natal clinic conducted in the Federal building by government doctors and nurses at government expense—these women the wives of naval employees.

The Government is in the practice of medicine strong as you can readily ascertain from newspaper articles appearing frequently.

The past week it has been proposed by the Board of County Supervisors—to remove the present staff of the Los Angeles Hospital and replace it by a paid staff—seriously considered according to the *Los Angeles Times*.

To a Winter observer it seems to me that there are many interested groups besides the doctors who are very much interested in the practice of medicine.

A. M. Harvey, M. D.

PNEUMONIA CONTROL PROGRAM OF THE STATE OF ILLINOIS

Pneumonia ranks third as a cause of death in the State of Illinois. In this State alone during the past five years, it has caused an average of 5,000 deaths annually. Hundreds of these were in young and middle-aged adults upon whose shoulders rested the responsibility for the welfare of the home and the local community. The problem of the loss of the breadwinner for the family is a serious one, and, in many cases, it adds to the already overloaded relief burden of the State. Realizing the seriousness of this problem, and in an effort to reduce the terrific mortality of pneumonia, the State Department of Public Health announces the inauguration of its Pneumonia Control Program.

A well-organized pneumonia control program contains the following provisions:

1. Adequate and easily available facilities for a rapid and accurate bacteriologic diagnosis of

pneumonia, with subsequent provisions for supplying specific serum.

2. Acquainting the physicians with the most modern methods of bacteriologic diagnosis and treatment of pneumonia and also acquainting them with the facilities of the Section of Pneumonia Control of the State Department of Public Health, which has been set up solely for the purpose of aiding them in every way possible.

3. Acquainting the public with these newer methods of treatment, with the fact that there are now life-saving sera for many of the types of pneumonia, and with the necessity of calling the family physician early in order for these sera to be used effectively.

Such a program can succeed only with the help of every physician in the State.

Since September 1938, the State Department of Public Health has been inviting laboratory workers from local diagnostic laboratories in Illinois, public and private, to attend its courses on the bacteriologic diagnosis of pneumonia, which service has been given without tuition or other fees to those in attendance. During the first three months more than 150 people attended this course. As rapidly as possible, the Department is now inspecting local diagnostic laboratories for the purpose of standardizing technique and approving them when found efficient in making bacteriologic diagnosis of pneumonia so that the physicians may be assured of accurate laboratory diagnosis upon which so much of the treatment depends.

Therapeutic antipneumococci horse serum for Types I, II, V, VII, IV and VIII will soon be available in certain strategic areas throughout the State. Because of the lack of sufficient funds, it has been necessary to confine the distribution of serum to these areas for the time being, but as the program expands, other centers will be added. The serum in these centers is to be given free of charge to all physicians in the State of Illinois for the treatment of pneumonia, regardless of the financial status of the patient. The only requirements necessary are:

1. That the bacteriologic diagnostic work for his cases of pneumonia be performed in laboratories which meet the minimum requirements of the State Department of Public Health for typing of pneumonia, and that a treatable type of pneumococcus infection be found.

2. That the duration of the disease has not been longer than 96 hours.

3. That the proper report on the use of the serum be filled in and submitted to the Department.

4. That all unused vials of serum be returned immediately.

Both the economic and therapeutic value of the above are self-evident.

As soon as possible, blood culture outfits are to be dispensed with the serum, as it is extremely important from the standpoints of diagnosis, prognosis, and serum dosage that a blood culture be made on each patient with pneumonia before therapeutic serum is given.

At the present time, serum centers and authorized typing stations are being established at Rockford, Peoria, Chicago, East St. Louis, Springfield, Carbondale and Urbana. Additional authorized typing stations are also being established at certain cities that are within a 50-mile radius of the above. In this way, sputum may be typed locally, and the report of the typing as well as the request for serum may be sent by messenger to the serum centers.

Education of the laity will be promoted as the pneumonia control program advances. It is extremely important that the public be taught the dangers in the neglect of all upper respiratory infections, and the importance of calling the family physician early for the treatment of such infections. Only in this way may the physician have the opportunity to treat pneumonia in its earliest stages, and, in a great many cases, to prevent its onset. In the future, prophylaxis as well as early diagnosis and treatment will undoubtedly play a most important role in the control of this highly fatal disease.

Such a pneumonia control program as outlined above has proved very successful in the states of New York and Massachusetts. The Public Health Departments and the physicians of those states are to be commended upon the work they have done and are still doing in the control of the mortality and morbidity of pneumonia. It is our hope that within the next few years, the Department of Public Health and the physicians of Illinois will be able to feel equally proud of their work in the field of pneumonia control.

A. C. Baxter, M. D.,
Acting Director of Public Health.

WEAKNESS OF SOME OF THE HYGIENIC MARRIAGE LAWS

Chicago, January 5, 1939

To the Editor:

Pre-marital tests for syphilis have become one of the subjects of the hour. Seven states have now passed an hygienic marriage law. These states are Connecticut, Illinois, Michigan, New Hampshire, New Jersey, New York and Wisconsin. The enactment of such a law is now being considered by the legislatures of many other states.

But little has been said about the legal effect of syphilis contracted or discovered after marriage. Therefore, it was with amazement that I read an article entitled Social Health Laws, written by Miss B. Fain Tucker, a Chicago attorney, in a recent issue of the *Kappa Beta Pi Quarterly*. For I learned that syphilis is a cause for divorce in just one state—Kentucky. A healthy spouse may not procure a divorce on that ground in Illinois. In fact our statute specifically provides that it is necessary for the diseased spouse to infect the other before a cause of action for divorce accrues. As Miss Tucker says, our law "supports the proposition that it is better to turn loose on society two infected persons rather than one."

This article also points out the weakness of some of the hygienic marriage laws. All of them limit the period of time that may elapse between the compulsory physical examination and the application for the license, the period ranging from fifteen to forty days. But it is surprising to find that only three of the states place any time limit on the validity of the marriage license. In Illinois and Wisconsin the license becomes void after thirty days, and in New York after sixty days.

We may well question the efficacy of a law that requires a physical examination to be made shortly before the marriage license is issued, and then allows the license to remain valid for a year or so.

In a pamphlet sent me by the author, B. Fain Tucker, a woman attorney in Chicago, this subject is fully covered.

To anyone interested, this pamphlet will be sent on request.

Effie L. Lobdell, M. D.

Strauss Bldg.

U. S. A. vs. A. M. A.

Chicago, Ill., January 25, 1939.

To the Editor:

In its indictment of the American Medical Association, the Government claims that the Association's action in restraining the function of the Harris County, Texas, Medical Society and the Group Health Association of Washington, D. C., is in violation of the anti-trust laws. But the A. M. A. insists that it has a right to say who shall be its members, for only in this way can it maintain the high standard of medical practice necessary for the protection of the health of the American people.

The Government also charges that the Association has used its great powers to force its own economic interests on physicians, hospitals and patients alike.

The A. M. A. represents the policies of all the state societies, which in turn represent the policies of their respective county societies. The county societies are made up of individual practitioners of medicine, coming into contact with the individual patients. Upon their close relationship with and understanding of the patient depends a great percentage of any treatment they might administer. Because of a clear insight into the mind and feelings of his patient the doctor is able to be of assistance in his sickness, real or imaginary, and if the best interest of patient and doctor is to be served, this relationship cannot be disturbed or altered by law.

I have been a member of the American Medical Association for the past thirty-eight years. I have devoted much time to the work of organizations, attending meetings and serving as a member of various committees. These duties have brought me into contact with family physicians and specialists in all branches of medicine, and there has never been an attempt in any organized manner to raise a fee or to fix a minimum or maximum charge to a patient. There has always been organization by lay groups such as charity organizations, who have had enough money to start social service bureaus and supply medical treatment by physicians, without provision for payment for their services. The bureaus take all the credit for this service, which is the greatest element in their success. And lay lodge and insurance groups have advertised to prospective members the advantages of membership

that includes medical services at a cost of a mere two or three dollars a year.

The medical society can maintain its organization only by striving to advance the practice of the science of medicine. Any other objective would have brought defeat many years ago. The dissatisfied members and other irregular practitioners are the ones who are now advocating some sort of government or group insurance, because they expect it to force a fixed income for their own gain, not taking into consideration the consequences to the patient.

We claim that any society or organization is legally able to say who shall be members, as long as it is organized for the advancement of the science of medicine and does not interfere with public policy. Any licensed physician of good moral character may become a member of the medical society. If he becomes a member it is his duty to further the interests of the society and to conform to its rules and ethics.

One objection of the government is that the principles of the society prevent doctors from doing contract practice for lay organizations for a fee that we claim would not be adequate to furnish sufficient medical and hospital care.

The code of ethics of the A. M. A. states that it is unprofessional for a physician to dispose of his services for a fee which makes it impossible for him to give adequate services and to maintain reasonable competition among practitioners. In other words, if lay groups, corporate or otherwise, enter the field of providing medical service, other groups are bound to enter the same field, cutting the price of adequate medical care. There will be solicitation of patients by lay groups, directly or indirectly, irrespective of the quality of care.

The hospitals are owned by the public, the church or by private individuals. They are not the property of the medical profession. But they must depend upon the physicians practicing in them for the highest quality of medical service they can obtain. This part of the hospital's efficiency depends upon the physicians practicing there—the hospital's standing depends upon the grade of practice furnished by the medical staff. How, then, is it possible for a hospital to allow doctors to practice there without some form of management that excludes certain types of practice that they would consider inadequate or not for the best interest of the patient and the institution? This is not illegal. A hospital must make its own rules governing hospital and medical care.

Doctors give their services gratis to tax supported hospitals. They expect the management of those hospitals not to furnish care to those not entitled to it, because in so doing they work against the interests of the medical profession and deprive them of a proper livelihood. In many instances this is not done because of favor and political influence being brought to bear upon the institution, forcing it to admit patients who are able to pay for their services.

The average income of the general practitioner is less than $2500.00 a year. The larger individual incomes are the incomes of specialists.

The cost of hospitals and doctors represent less than 60% of money paid for sickness. 40% is paid for medicines not prescribed by physicians, to the different cults, irregular practitioners, faith healers, etc. This 40% cannot be charged against the regular physician and hospital in estimating the cost of medical care.

J. R. Ballinger, M. D.

EDUCATIONAL COMMITTEE

Report for January, 1939

SPEAKERS' BUREAU:

72 doctors gave talks before lay organizations for the educational Committee.

20 of these talks were on SOCIALIZED MEDICINE, and were given before men's clubs, forums, church groups, women's organizations.

31 different counties made use of the services of the Speakers' Bureau.

SCIENTIFIC SERVICE:

28 programs were arranged for county medical societies as follows:

Scott County, Iowa	Monroe
Will-Grundy	Ogle
Schuyler	Iroquois
Perry	McHenry
Beardstown Hospital	Peoria
Effingham	Jefferson-Hamilton
Lake	Franklin
Bureau	Williamson
Kankakee	Douglas
Jersey-Greene	Litchfield
Rockford	Shelby-Christian

The Scientific Service Committee is now working on a new list of suggested speakers and subjects for county medical society programs. The list will include a number of new plans for clinical conferences, round table discussions, etc.

RADIO:

17 programs were given over Chicago stations, copies of the talks were then furnished downstate societies.

A new series of programs was begun over station WGES. These talks are given in Lithuanian by the Lithuanian members of the Chicago Medical Society, Wednesday mornings at 8:45 o'clock. The original material is prepared by the Educational Committee.

MISCELLANEOUS:

Assisted in program of Summer-Round-Up Chairmen of the Chicago District of the Illinois Congress of Parents and Teachers.

Assisted in program on the Mentally Handicapped Child before the Chicago Woman's Club.

Secured program for the Public Health Chairmen of the Illinois Federation of Women's Clubs, Chicago district.

Held meeting of representatives of special departments of State Department of Public Health to discuss plans for cooperation and coordination.

Represented at meeting of the Advisory Committee of the Maternal and Child Welfare Division.

Represented at meeting of the Committee on the Hall of Health for the Annual Meeting.

Letters sent to all prospective exhibitors in Hall.

Cooperation with Secretary of the Secretaries' Conference.

Assisted with publicity for public meeting sponsored by the Chicago Medical Society.

Furnished material concerning Speakers' Bureau to the Adult Education Council of Chicago.

Mimeographed 500 copies of article on MENTAL HYGIENE for Public Health Chairman of Illinois Federation of Women's Clubs.

Assisted county with plans for a diphtheria immunization campaign.

NEWSPAPER SERVICE:

64 health articles to Chicago newspapers.
341 health articles to Downstate newspapers.
488 editorial articles to papers.
1,880 health articles to home advisers, health chairmen, WPA teachers, schools, Red Cross, etc.
238 articles to libraries.
228 Articles to hospitals.
1,003 copies of "The Doctor Looks at Socialized Medicine" from *Nation's Business* sent to above lay list, libraries and hospitals.

Articles written and approved on the following topics:
Have a Heart.
Brain Injuries
Heart Diseases Increasing.
Scarlet Fever.
Deafness and the Child.

PUBLICITY FOR MEDICAL MEETINGS:

40 releases for Bureau County.
56 releases for Franklin County.
28 releases for Jefferson-Hamilton.
46 releases for Peoria County.
67 releases for Chicago Medical Society.
4 releases for North Shore Branch.

AID TO COUNTY MEDICAL SOCIETIES:

110 notices sent for Jefferson-Hamilton County.
99 notices sent for Bureau County.
101 notices sent for Effingham County.
111 notices sent for Franklin County.
125 notices sent for Perry County.
300 notices sent for LaSalle County.

Respectfully submitted,

JEAN MCARTHUR, Secretary.

ILLINOIS BUYS 7 IRON LUNGS

At the direction of Governor Henry Horner, the State of Illinois has purchased seven Drinker respirators which are now available for the treatment of any patient in the State who in the judgment of his physician will be benefitted thereby. With appropriate ceremonies in the presence of many dignitaries from official and civil life, these respirators, which are of the latest design, were turned over at Springfield on December 28, 1938, to the managing officers of seven State hospitals. The respirators will be permanently stationed at these hospitals and will be available on short notice, so far as practicable, up on request. These State hospitals are located at: Anna, Alton, Dixon, Elgin, Jacksonville, Kankakee and Peoria.

Physicians who find themselves in need of mechanical respirators for the treatment of patients under their care are invited to feel the utmost freedom in requesting them from the managing officer of the State hospital nearest at hand.

OUR NEW NAME—MISSISSIPPI VALLEY MEDICAL JOURNAL

Fifteen years ago (1924) your editor established THE RADIOLOGICAL REVIEW, the first periodical devoted to the progress of clinical radiology as it interested the physician and surgeon. In 1927 that publication absorbed the CHICAGO MEDICAL RECORDER (Est. 1878), the official publication of the old Tri-State Medical Society (Ill., Mo., and Wisc.), which later became the Inter-State Post Graduate Medical Association of North America. In 1936 the combined journals became the official publication of the Mississippi Valley Medical Society. Most of the pages of the publication during the past few years have been devoted to the publication of the papers read before the Mississippi Valley Medical Society. It seemed fitting and proper, therefore, that the name be changed to indicate its principal function hence the new name—MISSISSIPPI VALLEY MEDICAL JOURNAL (Incorporating the Radiologic Review).

The old journal with a new name will continue its original purpose to be a "general practitioner's" periodical. It wil be devoted to the progress of clinical medicine, surgery and radiology as they interest the practicing physician and surgeon. It will contain the papers read before the Mississippi Valley Medical Society—"The Mid-West's Greatest Intensive Post-Graduate Assembly for General Practitioners"—in addition to articles on clinical radiology and allied sciences.

The same editorial board that has cooperated with the publcation in the past will be retained.

J. THORNWELL WITHERSPOON, M. D., TO BE NEW EDITOR OF MODERN MEDICINE

The appointment of J. Thornwell Witherspoon, M. D., formerly of Indianapolis and New Orleans, to be editor of Modern Medicine, national medical journal published in Minneapolis, is announced by the publishers in the January number, issued this week.

Dr. Witherspoon comes to Modern Medicine with a fine record of clinical, literary, research and teaching experience. He has been a liberal contributor to medical literature, having published more than fifty original articles and hundreds of abstracts in leading gynecological and surgical journals. His new medical textbook, now in press, will be published in the early spring by Lea & Febiger under the title, "Clinical Pathological Gynecology."

Dr. Witherspoon was born in New Orleans, La., January 17, 1900. After graduating from Princeton University, he won a Rhodes Scholarship and spent two years in England at Oxford University where he received two degrees in physiology. Returning to America, he entered Johns Hopkins University Medical School, from which he was graduated as Doctor of Medicine. After two years' internship and residency at St. Lukes Hospital, New York City, he entered the practice of medicine in New Orleans. He worked under and in the private office of the late Dr. C. Jeff Miller, past president of the American College of Surgeons. He was appointed instructor and later assistant professor at Tulane University Medical School, New Orleans. Dr. Witherspoon later moved to Indianapolis and was appointed Assistant Professor and subsequently Associate Professor of Gynecology at the Indiana University Medical School.

Dr. Witherspoon is a fellow of the American Medical Association, a member of the Marion County (Indianapolis) and Indiana State Medical Societies. He was formerly a member of the Orleans Parish and Louisiana State Medical Societies. He is licensed to practice medicine in the states of Maryland, Louisiana, and Indiana.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral, clinical and pathological examinations for all candidates, Part II Examinations (Groups A and B), will be conducted by the entire Board, meeting in St. Louis, Missouri, on May 15 and 16, 1939, immediately prior to the annual meeting of the American Medical Association. Notice of time and place of these examinations will be forwarded to all candidates well in advance of the examination dates.

Candidates for reexamination in Part II must request such reexamination by writing the Secretary's Office before April 1, 1939. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their first examination.

Application for admission to Group A, May 1939, examinations must be on file in the Secretary's Office by March 15, 1939.

Application blanks and booklets of information may be obtained from Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh, (6) Pennsylvania.

CHICAGO MEDICO-DENTAL-MILITARY TRAINING COURSE

An announcement of particular import to medical, dental and military men and to those interested in these three professions was made today by Major General Stanley H. Ford, commanding the Sixth Corps Area. The second Chicago Medico-Dental-Military Training Course will be held during the period February 26-March 11, 1939.

This joint meeting of the medical and military professions was initiated in Chicago last year and proved so successful that its continuance was decided upon. Facilities for holding such instruction are available in only a very few cities in the United States. Experts claim that no city offers better facilities than does Chicago.

With the full cooperation and assistance of such outstanding medical and dental institutions as: The University of Chicago Medical School; Rush Medical College; University of Illinois College of Medicine; Loyola University Medical School; Chicago College of Dental Surgery, Loyola University; Northwestern University Dental School; and the University of Illinois College of Dentistry; and with the coordination of army (regular and reserve) medical officers, the meetings will offer postgraduate work, clinics and lectures on medico-military subjects, with particular emphasis on the medical-dental phases during the forenoons and on the military phases during the afternoons.

Last year over 250 professional men attended this conference. Indications are that this number will be exceeded this year. Attendance is not restricted to those from the Chicago area but will include many from several states and covering a wide area. Last year individuals from fifteen states were in attendance.

Many Medical Department and other Reserve officers will attend on an inactive status and without expense to the government but will receive inactive status credits in connection with their military schools.

Announcement was made that inquiries from medical, dental and military men concerning any phase of the conference would receive prompt reply if addressed to the Commanding General, Sixth Corps Area, Post Office Building, Chicago.

EXAMINATIONS FOR UNITED STATES NAVY MEDICAL CORPS

The Medical Corps of the United States Navy offers a number of internships and commissions to graduates of Class "A" medical schools who have completed or are about to complete an internship in a civilian hospital. Examinations will begin on May 8th, 1939, and

applications should be on file at least one month prior to that date.

Commissions—Qualified candidates who have completed internships in civilian hospitals and who successfully pass the competitive examination will be commissioned as Assistant Surgeons with the rank of Lieutenant (junior grade) and assigned to the Naval Medical School, Washington, D. C., for a post-graduate course of instruction prior to their assignment to sea or foreign shore duty.

Qualifications—Candidates must be United States citizens between the ages of 21 and 32 years at the time of appointment, and pass a physical and professional examination. The physical requirements comprise the following: Height—66 to 76 inches, inclusive; robust physique and development; weight—proportionate to age and height; hearing—normal; vision—not less than 12/20 each eye unaided by glasses and capable of correction to 20/20; color perception—normal; teeth—not less than 20 vital teeth, of which there must be 4 opposed incisors and 4 opposed molars.

Compensation—Officers of the rank of Lieutenant (junior grade) without dependents receive compensation of $2,699 per year, while those with dependents receive $3,158 per year. There are additional cash allowances.

If interested, write at once for further particulars to
Bureau of Medicine and Surgery,
Navy Department, Washington, D. C.

ANOTHER STEP IN THE BETTER CONTROL OF DIABETES

Announcement is made by The Denver Chemical Mfg. Co., 163 Varick St., New York City, that they have succeeded in developing in their laboratories a new, dry, micro-reagent* for making an instantaneous test for sugar in urine and which appears to be entirely practical for adoption as a means of making bedside and routine office tests for glycosuria.

It consists of a compound in powder form. Its use is simple and easy: A small quantity of the powder is deposited on some dry surface and, with a medicine dropper, one drop of urine is allowed to fall onto the powder. The reaction is instantaneous. If sugar is present it will reveal itself in degrees varying from 0.1 per cent to 2 per cent and over. It is quick, accurate and inexpensive.

Hospitals and laboratories have been reporting favorably on its use; and physicians in private practice are adopting it as a routine office measure. This simple test may well prove to be another step forward in the better control of diabetes.

*Called "Galatest".

NEGRO PHYSICIANS TO CO-OPERATE WITH THE A. M. A. ONE HUNDRED PER CENT

At the recent special session of the A. M. A. House of Delegates three members of the national medical association, an organization composed of some 5,000 negro physicians were accorded the privilege of the floor and allowed to express themselves on the economic problems confronting the negro doctors which are the same as those troubling the members of the American Medical Association. Each of the members of the National association addressed the House in an intelligent and dignified manner which brought forth great applause from the respective delegates. We quote the gentlemen in full.

Roscoe C. Giles, Chicago, addressed the House as follows:

ADDRESS OF DR. ROSCOE C. GILES, CHICAGO

Dr. Hilton S. Read, New Jersey, presented Dr. Roscoe C. Giles, Chicago, who addressed the House as follows:

Mr. Chairman, Members of the House of Delegates of the American Medical Association:

Unfortunately I am not now president of the National Medical Association; I am a past president of the association, but I am here with Dr. Roberts, an ex-president, and Dr. Clarence Payne of Chicago, a member of our Commission on Tuberculosis, by courtesy of the House as the representatives of the National Medical Association. Our organization is an organization which is the mouthpiece for approximately 5,000 colored physicians in America. Many of our men in the North are members of the American Medical Association. We regret that it is not possible for all of our members throughout the entire country to be members of your august body. We are very deeply interested in this subject of medical economics. At our last session, in our convention held at Hampton, Va., August 15-19 of this year, we were visited by some representatives of the federal government with certain plans which were proposed to be introduced at the coming session of Congress which if enacted would mean the initiation of state medicine in America.

It was pointed out to us that there were 40,000,000 people in America who are unable to provide adequate medical service for themselves, that of that 40,000,000 there are 6,500,000 who are members of our race in the rural districts of the South. It was furthermore pointed out to us that we had little or nothing to expect from organized medicine, that for our own self preservation it might be necessary for us to swallow wholeheartedly this plan of the federal government.

Our Executive Committee and our House of Delegates considered the matter very seriously and we arrived at the very definite conclusion that there are no insurmountable fundamental difficulties in the field either of medical economics or of professional relationships between the majority and minority groups which cannot be amicably settled within the ranks of organized medicine. Therefore, in accepting the suggestions that were made to us that we might consult certain departments of the federal government whose forces are now arrayed against organized medicine, we chose to walk in and present ourselves a few days ago before your

distinguished body in session and to there make certain requests and to make certain definite statements, some of which I shall here and now repeat.

The plight of the colored physician in America has been very pitiful. I will not take the time to rehearse all of those things. You men who are teachers in our universities throughout the country know these as well as we do. The thing that has impressed us greatly recently has been the fact that under the Emergency Relief Act so far colored physicians throughout the United States as a whole have not been permitted to take care of colored patients, thus violating a fundamental principle of your great organization, the free choice of physician by patient.

By that same token we have also been prohibited from sharing, as we should like to share, in the provisions for the control of venereal disease throughout this country. We believe that those are problems which can be and will be worked out and we hope will be worked out during your deliberations here.

We are vitally interested, as you are, in all these public health problems. We would like, if permitted, to work hand in hand with you on these matters. It is safe to say, as we said last night, that as no man in America is safe unless the humblest citizen is safe, so is it equally true that no physician in America is safe so far as social security is concerned until the humblest physician has been protected.

We therefore appear before your organization with the request that, if you can see your way clear to do so, you again enunciate the doctrine you have already done of the free choice of the physician by the patient, and, furthermore, to be more specific, that the Negro physicians be permitted anywhere in America to take care of Negro patients if those patients so desire.

We would like to further emphasize that, acting along those principles which were adopted by us in convention, we have decided to go along with you in every way humanly possible, because we know the situation. We have had an opportunity to see socialized medicine in Europe. Dr. Roberts, a distinguished member of this committee, studied it in England, Dr. Payne studied it in France and I have had an opportunity to study it in Vienna for seventeen and a half months, and I am very sure that none of us would like to see the conditions that obtain in Europe at the present time, and which obtained there at the time I was a student in the University of Vienna.

Men who are specialists in that particular city got 50 cents per patient, and the average physician worked for about 10 groschens or about 7 cents a patient. It was a rare thing for them ever to eat meat; they could not afford to buy it.

If we have socialized medicine in America, I am very sure, as you must be sure, that the standards of medical practice will degenerate, that the pay of physicians will not be adequate for them to keep up with their educational facilities and post-graduate study and the patients again will suffer as they have suffered in Europe.

Therefore, in conclusion may I say that we lend to you our support and our sympathies in the struggle that you have against the forces arrayed against you and promise you that so far as humanly possible we will give you our undivided strength.

ADDRESS OF DR. CARL G. ROBERTS, CHICAGO

Mr. Speaker and Officers and Members of the House of Delegates:

As an additional member of the committee representing the National Medical Association, I wish to supplement and to further emphasize the remarks that have been made by our chairman, Dr. Giles. We want to bring to you the good will of the National Medical Association and to assure you that this is a momentous event when we show to the outside world through our reception here by your gracious and distinguished body that whatever difference in point of view may exist internally in the ranks of medicine, to those forces that are arrayed against us that are seeking to disintegrate organized medicine we present a united front of opposition, that there are no problems, as has just been said, which are so insurmountable or so difficult that they cannot be solved amicably within the ranks of organized medicine.

As I heard Dr. Snyder present his plan here this morning, I wondered if he was thinking, as I was thinking, in amazement at the plan that was presented at the Planning Committee of the Republican Party held recently in Chicago, where we were present not as partisan politicians but as invited guests to represent our several and component societies; we heard presented there a deal that surpassed the New Deal, a proposal to socialize medicine completely from top to bottom. I wonder whether those of you who were present listened with the same amazement with which the members of the National Medical Association listened. I assure you that we know definitely, as we told them on that particular occasion, that we know what we want concretely and what we don't want, and one thing that we do not want is any socialization of medicine, and I want to assure you gentlemen in whose hands the fate and destiny of the American Medical Association lies, that we are quite willing to subscribe to whatever you decide upon on this occasion, that we believe, as you do, that the fate of medicine in America, that the fate of the health problem so far as it affects the laity, is best put into the hands of those who are trained especially to take care of them, in other words in the hands of the American doctor and the American dentist, and we believe with confidence in your sense of fair play and in your sense of justice and in your ability and your wisdom to see to it that those handicaps which have been mentioned to you, under which we labor, will be adjusted and removed, because we feel that you will agree with us that the health of one-tenth of this population, who are Negroes, in the final analysis must lie largely in the hands of the Negro doctor, and as long as that minority which has the highest rates of morbidity and mortality in these preventable diseases is a drag on the health situation of America, so long must we be prepared to meet it.

Again, in conclusion, we want to thank you on behalf of our association, which appreciates more than you can know this gesture of good will. I have just received this afternoon a letter from our president in which

he has answered a copy of an attack that appeared as an editorial in a newspaper last week on both the American Medical Association and the National Medical Association, and that letter of his will be published in that paper this week, an answer to those forces that are inviting us to put our fate in the hands of propagandists who use a system so often used when they want to divide a house against itself, by laying the matter in the hands of outsiders. We propose to rely on the members of this Association. There is no section and no division line in friendship or medical principles regardless of race involved, and we propose to march forward with you in all that is best for American medicine if you will permit us to do so.

ADDRESS OF DR. CLARENCE H. PAYNE, CHICAGO

Mr. Chairman and Members of the House of Delegates:

The previous speakers have laid before you most of the things that have been close to our hearts, but I may add this: that it was the consensus of opinion of the men from Texas and the men from all sections of this country that you stimulate and advance the health and the protection of the Negro patient in the Southland as well as in the Northland by affording us the courtesy and the dignity of respect that you have today. We wish to add that in their evolvement of this question they felt that it brought itself down in medical economics to the recognition of the patient and physician, that if we considered all our problems from this angle most of them would be solved, because wherever we have a separation of that ideal we have always had failure. We have felt that we needed to inform the government that we regarded Americans as divided, for practical purposes, into three classes: one class able to pay for any amount of hospital and medical care, and they certainly should not be interfered with by anybody; the middle group of course needing some supplementary aid, probably, but that aid has always been able to be worked out by American initiative, and we felt that the hospitalization plan as worked out here in Chicago, if it were made more comprehensive, could extend to all employed persons in the United States, operating by private enterprise and supervised by medical boards so that any mistakes in its operation could be corrected, and that would afford them a solution and help them to meet their problems; in regard to the indigent we felt that here too the patient and physician relationship should exist, and that there should of course, if necessary, be federal subsidy but that in the subsidy of these patients it should be also supervised by medical commissions, whether they be state or whether they be under the head of your American Medical Association. In that way, rather than being exploited, the patients and the physicians of this country would reach an amicable settlement of all their difficulties.

Those are the general principles on which we felt that our case would rest and that we would wait on you for guidance in the working out of those details which are necessary to arrive at a proper solution.

I thank you for this privilege.

UNIVERSITY OF ILLINOIS COLLEGE OF MEDICINE

Postgraduate Course in Syphilis

Given by the Department of Dermatology in Cooperation with the various Departments in the University of Illinois College of Medicine in the Research and Educational Hospital, 1819 West Polk Street, offered under a grant from the Federal Government with the approval of the Illinois State Department of Public Health.

Eight-weeks course: Tuesday and Thursday from 2 to 4 p. m. First period starts February 27, 1939.

The course consisting of lectures, laboratory demonstrations and the presentation of hospital and dispensary clinical material is designed to offer to the practitioner a review of the subject and a discussion of recent developments in this field.

The course will be repeated four times a year. Only licensed physicians practicing in the State of Illinois will be accepted. The number of registrants for any one period will be limited to 20. Those registering will be accepted in the order of application.

There will be a registration fee of $10.00. Applications together with a check covering the registration fee, made payable to the University of Illinois, should be sent to the Examiner and Recorder at 1853 West Polk Street, Chicago, Illinois.

NORTHWEST REGIONAL CONFERENCE

Palmer House, Chicago

Sunday, February 12, 1939

Carl F. Vohs, M. D., St. Louis, President—Chairman of Committee on Medical Economics, Missouri State Medical Association.

L. Fernald Foster, M. D., Bay City, Michigan, Secretary—Secretary, Michigan State Medical Society.

PROGRAM

8:30 a. m.—Breakfast (Room Number 18).

9:30 a. m.—Registration (Foyer, Red Lacquer Room).

10:00 a. m.—Morning Session (Red Lacquer Room).

A State-Wide Hospitalization Plan for the Low Income Group—Major G. Seelig, M. D., St. Louis, Missouri State Medical Association.

Pennsylvania's Public Assistance Program for the Medically Indigent—Walter F. Donaldson, M. D., Pittsburgh, Secretary, Medical Society of the State of Pennsylvania.

Middletown Modernizes Medicine (Lantern Slides)—Donald A. Covalt, M. D., Muncie, Indiana, Secretary, Delaware-Blackford County Medical Society; J. C. Silvers, M. D., President, and L. G. Montgomery, M. D., Muncie.

The Physician's Role in a Public Health Program—Theodore R. Meyer, M. D., Clayton, Missouri, Health Commissioner, St. Louis County.

1:00 p. m.—Luncheon.

Missouri State Medical Association will be host to the Representatives from State Medical Associations.

Report of the Year—Carl F. Vohs, M. D., St. Louis, President, Northwest Regional Conference.

Election of Officers for 1940.

Selection of meeting place and time of meeting.

Introduction of guests.

2:00 p. m.—Afternoon Session.

The National Health Conference—Henry A. Luce, M. D., Detroit, President, Michigan State Medical Society.

Discussion to Include the National Health Program Submitted to Congress.

Survey on the Need and Supply of Medical and Hospital Care—William F. Braasch, M. D., Rochester, Minnesota, Chairman, Committee on Supply of Medical Care, American Medical Association.

Supplementary Arrangements for Medical Care—R. G. Leland, M. D., Chicago, Director, Bureau of Medical Economics, American Medical Association.

Kansas Can Control Cultists—Mr. Clarence G. Munns, Topeka, Kansas, Executive Secretary, Kansas Medical Society.

General Discussion of All Presentations.

A NEW GARMENT

"Eliza," said a friend of the family to the old colored washerwoman, "have you seen Miss Edith's fiance?"

Eliza pondered for a moment, then bent over the laundry tubs once more. "No, ma'am," she said, "it ain't been in the wash yet."

PRECOCIOUS SEXUAL DEVELOPMENT FROM AN ANTERIOR PITUITARY-LIKE PRINCIPLE

In the course of treating thirty-three patients for undescended testis with the anterior pituitary-like principle, Willard O. Thompson and Norris J. Heckel, Chicago (*Journal A. M. A.*, May 28, 1938), observed that genital growth was produced in eighteen and that in fourteen it was marked. In two of them, aged 7 and 9 years, a condition resembling premature puberty resulted. The penis became as large as that of an adult. There was an increase in the size of the scrotum and prostate, a growth of pubic hair, a marked increase in frequency of erections, a change in the pitch of the voice, and in one a growth of hair on the sides of the face. Similar changes were produced in a 4-year-old boy out of a total of twelve patients with hypogenitalism, and less marked growth in eight others. The boy showing changes simulating premature puberty was of normal body contour but had an atrophic left testis. All boys showing genital growth became more masculine. It should be pointed out that in some of the patients with undescended testes and hypogenitalism who failed to show any growth, the dose may have been inadequate, there being several examples in the series of failure of growth with a small dose and a well marked growth with a larger dose. In contrast to the marked growth of other parts of the genitalia, the testes showed very little change in size. Descent was produced in only 23 per cent. of the total number of undescended testes, showing that genital growth may occur without descent of the testis. The treatment for undescended testes with the anterior pituitary-like principle should be stopped before genital growth becomes marked. If this rule is followed, it would appear that in the present state of knowledge its routine use is justifiable and desirable.

ALCOHOL IN RELATION TO TRAFFIC ACCIDENTS

"Richard L. Holcomb, Evanston, Ill. (*Journal A. M. A.*, Sept. 17, 1938), reports the results of a study of the drinking of drivers involved in personal injury accidents and of the drinking of drivers in the general population. The second study served as a control of the first, allowing conclusions to be drawn as to the part alcohol plays in accidents. A total of 270 persons were tested in the first study. Drivers involved in personal injury accidents who accompanied the persons injured to a hospital or drivers who themselves were injured were tested by urinalysis for alcohol. A total of 1,750 persons were tested in the second study. Drivers were chosen at random from an area comparable to that of the first study. A complete testing laboratory, with the Harger "drunkometer," was set up in a trailer, allowing breath tests for alcohol to be made immediately. 1. The highest percentage of drinking drivers occurs in the early morning hours and over the week-end. 2. The largest number of drinking drivers occurs in the early evening and over the week-end. 3. The peak age for drinking drivers is from 25 to 30. 4. Women drink and drive as much as men when the number of women driving at various hours of the day is considered. 5. The percentage of drinking drivers in the general population varies as does the percentage of driking drivers in the personal injury accident group but falls considerably lower at all times. 6. The percentage or number of drivers involved in personal injury accidents varies as does the percentage or number of driking drivers. 7. As the blood alcohol content increases, the number of drivers appearing in the personal injury accident group increases out of all proportion over that in the general driving population. 8. As alcohol increases, accidents increase and at a rate somewhat proportionate to the increase in alcohol. 9. Equal percentages of drinking drivers are found in the accident group and in the general population group at a point near 0.5 part of alcohol per thousand parts of blood, indicating that alcohol in that amount is not necessarily a significant cause of accidents. 10. The data gathered in this study confirms a self-evident fact, that alcohol is a major cause of automobile accidents."

SCHOOL DAYS

The octogenarian, Mr. Jones, during an operation for the rejuvenation of youth, became very impatient.

"Don't be so restless," growled the nurse.

The poor man went on moaning and sobbing.

"Don't cry, the pain will soon vanish."

"I'm not crying because of pain," explained the old man, "I'm afraid I'll be late for school."

Original Articles

FINER USES OF THE CROSS-CYLINDER IN REFRACTION

PHILIP A. HALPER, M. D., F. A. C. S.

Associate Ophthalmology, University of Illinois, College of Medicine

CHICAGO

INTRODUCTION

In the finer interpretation of the ametropias, one must learn to visualize variations in physiologic optics in much the same manner as one learns clinical pathology in order to properly evaluate signs and symptoms. What goes on in the uncorrected ametropic eye and what the lenses do which are placed before the eye to make it emmetropic are phases of refraction which all should understand in crystal clearness. The mastery of the crossed cylinder serves to give one a visualization of the whole optical mechanism. This special combination lens eventually brings to the refractionist an enthusiasm to such a high pitch that he ceases to work with inert glass in his test case. He becomes conscious of the effects which each lens produces on the deviation of rays on the receptive retina. The refractive mechanism of the eye is vital and alive. Why shouldn't the correction take on a like character? The examiner imparts a living function to the lenses when he properly corrects an ametropia and relieves a patient of troublesome symptoms. Does not a thorough refraction really become an exhaustive examination of the oculist?

One can unhesitatingly state that the most valuable instrument in refraction aside from the retinoscope is the cross-cylinder. This takes on an added value when manifest refractions must be done. Once the technic as to the several uses of the instrument is mastered, it will never fail one. It leads the patient very directly over the uncertainties of his answers and it guides the examiner with unerring and infallible accuracy in his own doubtful moments. Let all the accessories of refraction be taken away except the cross-cylinder, and with it alone, one will do superior work. He who has really learned to use it, has never laid it down in disappointment; and one has yet to hear an adverse criticism as to its claims to merit.

Strange that such a valuable instrument described 90 years ago by Stokes and 50 years ago by Jackson should be understood by such few ophthalmologists. About five per cent. is a rather fair figure as to the number of ophthalmologists who use it, in spite of the popularization of the instrument by both Jackson and Crisp in the past 15 years. *The difficulty in large measure must be the inability to learn the use of the instrument through the literature, and this presentation, entirely too short, is intended to stimulate the further perusal of the literature and to point out, in the large models of the eye and cross-cylinder, the various maneuvers and their interpretations.*

A. EFFECTS OF THE CROSS-CYLINDER ON THE AMETROPIAS. To facilitate the understanding of the cross-cylinder, one needs to know that it acts on both principal meridians in the opposite manner, at the same time. It is also necessary to constantly keep before the mind's eye the physiologic fact that a cylinder acts on the meridian at right angles to its axis. A plus or minus cylinder in the vertical axis acts on the horizontal meridian and a plus or minus cylinder in the horizontal axis acts on the vertical meridian. By holding a cross-cylinder *position one* with the rule before an eye (Fig. 1b) the plus element in the vertical direction acts on the horizontal meridian by converging the rays, while the minus element in the horizontal direction acts on the vertical meridian by diverging the rays. In *position two* (Fig. 1c) the plus element in the horizontal direction, acts on the vertical meridian by converging the rays while the minus element in the vertical direction acts on the horizontal meridian by diverging the rays. In an emmetropic eye (Fig. 1a) the *first position* of the crossed cylinder will produce an identical optical change as the *second position* since both principal meridians are identical and the plus and the minus cylinders in the cross-cylinder are of equal strength.

It becomes understandable now that in any type of Ametropia with astigmatism there will be a difference in the visual acuity between position one and position two when the instrument is held before the eye. This should serve as the key

Read before Section on Eye, Ear, Nose and Throat of Illinois State Medical Society, May 18, 1938, Springfield.

to the interpretation on the uses of the cross-cylinder.

1. Simple Hyperopic Astigmatism:

In a simple hyperopic astigmatic eye with the rule the rays *from the greater horizontal meridian with its lessser than normal curvature* will come to a focus behind the retina, while those rays *from the normal vertical meridian* will come to a focus on the retina. In *position one* of the cross-cylinder the horizontal rays are converged on to the retina, while the vertical rays are diverged slightly behind. In *position two* of the cross-cylinder the horizontal rays are diverged farther behind the retina while the vertical rays are converged in front. Here the cross-cylinder shows the presence of astigmatism. In *position one* the vision is better than in *position two;* and the position of the instrument also points the direction and axis of the cylinder to be prescribed.

1. Simple Myopic Astigmatism:

In a simple myopic astigmatic eye with the rule the rays *from the lesser vertical meridian with its greater than normal curvature* will come to a focus in front of the retina, while those rays *from the normal horizontal meridian* will come to a focus on the retina. In *position one* of the cross-cylinder the horizontal rays are converged in front of the retina while the vertical rays are diverged on to the retina. In *position two* of the cross-cylinder the horizontal rays are diverged farther behind the retina while the vertical rays are converged more in front of the retina. Here again the cross-cylinder shows the presence of astigmatism. *Position one* of the cross-cylinder is better than *position two.*

3. Compound Hyperopic Astigmatism:

In a compound hyperopic astigmatic eye with the rule (*a hyperopic eye with the horizontal meridian greater than normal*) the rays *from both principal meridians* will come to a focus behind the retina, while those rays *from the greater horizontal meridian* are focused farther behind. In *position one* of the cross-cylinder the horizontal rays are converged closer to the retina while the rays from the vertical meridian are diverged farther behind the retina. In *position two* of the cross-cylinder the horizontal rays are diverged farther behind the retina, while the vertical rays are converged closer to the retina. *Position one* of the cross-cylinder is better than *position two* because it partially corrects the refractive error.

4. Compound Myopic Astigmatism:

In a compound myopic astigmatic eye with the rule (*a myopic eye with the vertical meridian shorter than normal*) the rays *from both principal meridians* will come to a focus in front of the retina, while those rays from the shorter vertical meridian are focused farther in front. In *position one* of the cross-cylinder the horizontal rays are converged farther in front of the retina while the vertical rays are diverged closer to the retina. In *position two* of the cross-cylinder the horizontal rays are diverged closer to the retina, while the vertical rays are

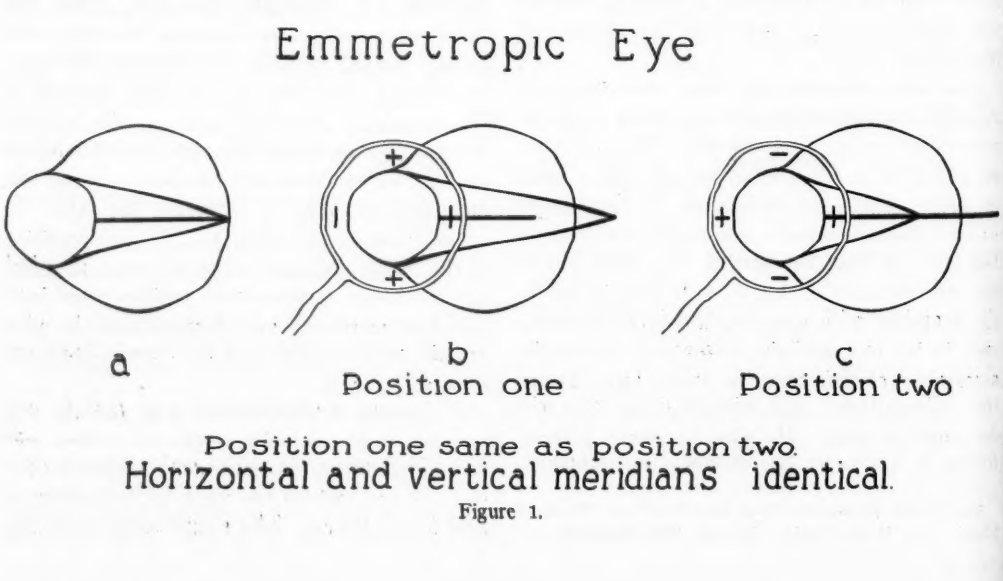

Figure 1.

converged farther forward in front of the retina. *Position one* of the cross-cylinder is better than *position two* because it partially corrects the refractive error.

5. Mixed Astigmatism:

In a mixed astigmatic eye with the rule (*normal length eye with horizontal meridian longer than normal, and vertical meridian shorter than normal*) the rays *from the longer than normal horizontal meridian* will come to focus behind the retina, while those rays *from the shorter than normal vertical meridian* will come to a focus in front of the retina. In *position one* of the cross-cylinder the horizontal rays are converged on to the retina, while the vertical rays are diverged on to the retina. *In position two* of the cross-cylinder the horizontal rays are diverged farther behind the retina, while the vertical rays are converged farther in front of the retina. *Position one* of the cross-cylinder corrects the refractive error while *position two* accentuates the error.

B. CLINICAL APPLICATIONS OF THE CROSS-CYLINDER. When one uses the cross-cylinder in all it possibilities, it will do the following:

1. (a) Determine the *presence of an astigmatic* error however small;

(b) Locate the axis accurately of the cylinder, however small:

2. Build up the refraction; (this it does by influencing the sphere and cylinder at the same time.)

3. Serve as a final check on the accuracy of the axis of a cylinder;

4. Aid in presbyopia to determine the accuracy of the addition for the specific distance of the patient's needed near point.

For practical purposes the first two uses of the cross-cylinder give it its greatest value, despite the fact that the instrument is generally used as enumerated in 3, namely, as a check on the axis of the cylinder. In playing with the cross-cylinder there develops in one a game-like satisfaction in searching for and locating small cylinders which in average refractions are entirely missed. Besides uncovering these small errors one usually finds them "off axis" for, with the cross-cylinder, one invariably can swing the axis to either side of the 90° vertical, or 180° horizontal. In other words, the proper use of

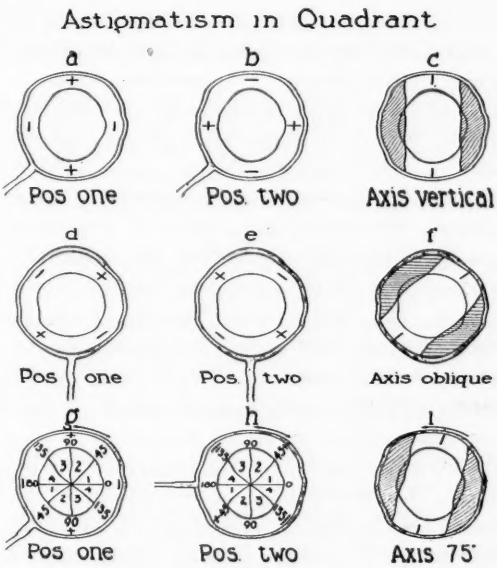

Figure 2.

the cross-cylinder usually reveals the astigmatic error to be "off axis." With what uncertainty does one regard a cylinder which is "off axis" and especially a small cylinder "against the rule?" In manifest refractions (and many must be done without mydriasis or cycloplegia) the cross-cylinder will be one's greatest guide. He will learn to prescribe the cylinders positively when picked up with the instrument either "off axis" or "against the rule" and his work will take on a superior quality.

1. Determination of the Presence and Axis of a Small Cylinder:

An eye which has had its hyperopia or myopia corrected will give a different answer in the two positions of the cross-cylinder as described above when small astigmatic errors are present. *Rule: When working with a hyperopic eye think of the cross-cylinder in terms of its plus cylinder element; the other part is only minus sphere. Conversely, when working with a myopic eye think of the cross-cylinder in terms of its minus cylinder element; the other part is only plus sphere.* In locating the axis with the cross-cylinder three double maneuvers are necessary. Firstly, the cylinder is located in the vertical or horizontal. Secondly, the cylinder is located in an oblique which gives one the quadrant in which the cylinder is contained. Thirdly, the cylinder is favored toward one side of the quad-

rant. When dealing with a quarter diopter of astigmatism, one prescribes the cylinder 15 degrees to the side of the quadrant which is favored in the third double maneuver. For example (Fig. 2) in simple hyperopic astigmatism with the rule, in the first double maneuver, *position one* and *position two*, the patient will favor *position one*, which means there is a cylinder present in the vertical axis (Fig. 2c). Since the vertical axis is on either side of the 90°—namely, from 45° to 135°, the second double maneuver now will locate the proper oblique (Fig. 2f) and quadrant. In this second double maneuver should *position one* at axis 45° be better than *position two* at 135°, then one locates the cylinder immediately in quadrant 2 (Fig. 2g-h). The cross-cylinder is then placed in the trial frame so that the plus element is "rocked" between the 90° and the 45° (Fig. 2g-h). Should the patient favor the 90°, then a cylinder is given at 75° (Fig. 2i), for the patient has chosen the cylinder toward the vertical rather than toward the oblique. In half diopter errors the findings are obtained with the 0.50 cross-cylinder in the same manner but the axis of the cylinder is ultimately chosen to a more precise axis, usually to within 5°. The axis of a larger cylinder should be accurately accepted by the patient in the usual manner of "rocking" cylinders in the trial frame.

2. The Building of The Refraction.

In building up the refraction by influencing both meridians at the same time, one adds to the cylinder and deducts from the sphere or vice versa as the case may be.

1. Compound Hyperopic Astigmatism.

(a) Plus of the cross-cylinder against (held parallel with) the plus cylinder in the trial frame calls for more plus cylinder and less plus sphere. (*Position one.*)

(b) Minus of the cross-cylinder against (held parallel with) the plus cylinder in the trial frame calls for less plus cylinder and more plus sphere. (*Position two.*)

2. Compound Myopic Astigmatism.

(a) Minus of cross-cylinder against (held parallel with) minus cylinder in trial frame calls for more minus cylinder and less minus sphere. (*Position one.*)

(b) Plus of cross-cylinder against (held parallel with) minus cylinder in trial frame calls for less minus cylinder and more minus sphere. (*Position two.*)

3. Mixed Astigmatism (minus sphere with plus cylinder).

(a) Plus of cross-cylinder against (held parallel with) plus cylinder in trial frame calls for more plus cylinder and more minus sphere. (*Position one.*)

(b) Minus of cross-cylinder against (held parallel with) plus cylinder in trial frame calls for less plus cylinder and less minus sphere. (*Position two.*)

3. Final Check On the Axis of the Cylinder.

This maneuver with the cross-cylinder is very useful in patients with less than normal vision who have moderate astigmatic errors (¼ to 1 diopter) which they cannot place at the exact axis. The cross-cylinder is held over the correcting lenses with the handle parallel to the axis of the cylinder in the trial frame, and the patient is asked to make a choice when the cross-cylinder is flipped from *position one* to *position two*. When the astigmatism is at the accurate axis there is no improvement noted by the patient in either position of the cross-cylinder, but if the patient is able to make a choice the axis is inaccurate. For example, the plus cylinder happens to be at axis 75°: by holding the cross-cylinder with the plus at 120° and the minus at 30° as the *first position* the patient says it is worse; by flipping to the *second position* so that the plus of the cross-cylinder is at 30° and the minus at 120°, the patient says it is better; he is asking for the axis to be moved toward the 60° side. This maneuver is repeated until no further choice can be made between *positions one and two*. As can be seen, in hyperopic astigmatism the plus cylinder component of the cross-cylinder is taken into consideration; in myopic astigmatism the minus cylinder component is kept in mind.

4. Use in Presbyopia.

A card made up of a series of horizontal and vertical crossed lines, is held before the eyes at the desired reading distance. The proposed reading addition is placed in the trial frame. A 0.50 cross-cylinder is now placed before the corrected eye against the rule. If the vertical and horizontal lines appear alike in intensity, the correcting lenses are of proper strength. Should the horizontal lines appear clearest the patient

wants more plus; should the vertical lines be clearest, the patient is overcorrected and the addition should be reduced.

307 North Michigan.

DISCUSSION

Dr. Thomas D. Allen, Chicago: I think we ought to congratulate Dr. Halper for this magnificent presentation. I read over his paper last week and could not find anything to discuss. In talking with him on the way down he put me in mind of several points. One is, we must bear in mind that from 95 to 98% of patients have astigmatism: the question is, how much and at what axis? Not that we will fit everybody with an astigmatic correction but we want to find out what it is. Therefore we assume that everyone has it and only after an exhaustive study do we admit that a patient has not an astigmatism. We can all easily overcome small errors of hyperopia or myopia, but the small error of astigmatism is a bête noire; also the larger error that is not accurately axised.

We have used the cross-cylinder for many years in our office; I suppose we use it every day many times. Those to whom the cross-cylinder is complicated can do what I often do, use the simple cylinder. The same principle holds true. One of the very fine advantages of the cross-cylinder, I think, is that we can find the off axis very accurately. For instance, most of us are inclined to give 90, if we find it anywhere within ten degrees of 90. I think after using the cross-cylinder you will give 70, 85, 82 even. It is so often off axis a little bit one way or the other, if we can find the exact axis we are apt to make our patients a little more comfortable. The simple cylinder is of use if you fog; and you can "fog out" with minus cylinder and follow this technic that has been so ably presented here before you.

Dr. Jack Cowen, Chicago: Many excellent articles have been written on the use of the cross-cylinder, and for all their illustrations they are difficult to translate into practical usefulness. Since the action of this instrument is most easily taught by direct instruction and personal demonstration and, since its description on the printed page is at best forbidding, we have all been fortunate in hearing Dr. Halper's lucid and sympathetic treatment of the subject.

I have used the cross-cylinder consistently since my introduction to it four years ago and find it an indispensable part of my refracting equipment. The cross-cylinder offers a sudden and simultaneous choice between two different positions on either side of the axis of a cylinder in question. It brings out small astigmatic errors indeterminate or questionable with the retinoscope. It indicates clearly the presence of too much or of insufficient amounts of cylinder.

In performing a manifest refraction, I find it best to begin first with spheres, then using the cross-cylinder to determine the approximate strength and axis position according to the three maneuvers cited by Dr. Halper. I arbitrarily use the "plus-fifty:minus-fifty" cross-cylinder for visions less than 20/30, and the "plus-twenty-five:minus-twenty-five" for visions better than 20/30. A second adjustment of the sphere is made and the cylinder corrected again. During adjustments of the axis, the equivalent power of the entire equation is always balanced, and attempts are made to increase the hyperopic, or decrease the myopic element. This is never pushed to the point where blurring makes choices with the cross-cylinder impossible.

The cross-cylinder is most accurate with accommodation in abeyance. The check in cylinder strength occurs to within a quarter diopter in most cases. The axes are not found on the vertical meridian as frequently as the retinoscopic shadows would lead one to believe. The cross-cylinder usually shows slight obliquity to the axes. Recheck of the retinoscopic findings after correction with the cross-cylinder is always most enlightening.

At post-cycloplegic examination, I prefer to recheck the axes and cylinder strengths with the cross-cylinder although many oculists take their findings directly from their trial case results. Stine, in his study on variations of the refraction in the extra-visual pupillary zone, cites many cases where the refraction differs in various parts of the pupillary area. The recheck, then, is a safeguard against the patient choosing a new visual axis through the smaller pupils. Sometimes reduction of the spherical component of the full correction must be made about a quarter diopter to clarify the type, so that a choice may be made during the cross-cylinder maneuver. If the difference at the "flip" is not clear, the patient will often swing wide of the correct axis and make a big circuit before returning to the proper position.

I find it wise to ask the patient "Which of these two faces is the better?" rather than "Is it more clear now?" It is often good to take the wind out of the patient's sails by reminding him that you know he probably sees better without the cross-cylinder lens in place than with it. It is often gratifying to the patient to have him close his eyes during changes of the lenses. His answers after the rest are often accurate and more quickly given.

In the refraction of aphakic patients with cross-cylinders, it is wise to start with a "plus-seventy-five: minus-seventy-five" in conjunction with a high sphere commensurate with the patient's preoperative refraction. When a large cylinder is expected, as shown perhaps by a Javal keratometer, it is often wise to start with a +3 cylinder in the horizontal meridian, carrying on from here with the cross-cylinder.

In closing, I should like to call attention to a rule enunciated by Dr. Halper: when dealing with a plus cylinder, think of the cross-cylinder also as a plus cylinder with which a minus sphere has been incorporated; conversely, with a minus cylinder in the trial frame, think of the cross-cylinder as a minus cylinder combined with a plus sphere. I visualize the white dots as the axis of my plus cylinder and the red dot as representing the action of that cylinder. The reverse is true when thinking of the cross-cylinder in terms of its minus elements. As Dr. Halper says, intimacy with the cross-cylinder makes it a living part of the refraction.

Dr. O. B. Nugent, Chicago: I would like to add one thing to what has been said. It has been very interesting to hear this discussion and I want to assure anybody who has not used the cross-cylinder that it is not as complicated as it seems. One thing I have noted is the readiness with which the patient will tell us which is the better side for the cross-cylinder regardless of how slow he is in answering other things. One thing I might add to its use. In using it the originators have advised that you use the handle over the axis of the cylinder you are testing. I have a mark on my cross-cylinder so that this can be more accurately laid over the cylinder that is being tested in the trial case. I find this a great advantage.

Dr. Philip Halper, Chicago (closing): I took more time then was allotted to me but the subject matter would have been incomplete had I tried to cut out certain parts of it. If you learn to interpret the cross-cylinder thoroughly in one way and use the instrument long enough, all other interpretations will gradually come to light. What primarily interests me is uncovering the small astigmatic error with its proper axis and building the refraction. One reserves the further uses of the cross-cylinder for occasions when they arise.

I want to thank the discussors for bringing out additional material which time did not permit me to stress.

CARCINOMA IN CLINICALLY BENIGN GASTRIC ULCER

MAX MASS, M. D.,
and
FREDERICK STEIGMANN, M. D,
CHICAGO

That a certain percentage of large gastric ulcers undergo malignant degeneration is unanimously accepted. The controversy among clinicians rests only on the number of such cases. Thus, we find the percentage of malignant changes in gastic ulcers given as anywhere from 68% (MacCarty); 30% (Eiselsberg); 26% Finsterer); 20% (Katsch); 10-20% (Scott); and 5-10% (Stewart, Hurst, etc.).

There is a further unanimity of opinion that it is often very difficult to decide clinically whether a given large gastric ulcer is benign or malignant and, therefore, various criteria have been suggested by different men as diagnostic aids in such cases. Thus the size, shape, location and changes in the niche on x-ray examination (Kirklin, etc.), the appearance of the lesion on gastroscopy (Benedict), the presence of free acid, the presence or absence of blood in the stools, the clinical response to treatment, and the appearance of the lesion on laparotomy, have all been given as valuable points in the differentiation of the benign from the malignant gastric ulcers.

It is not within the scope of this brief report to controvert either the percentages of malignant degeneration of large gastric ulcers, or the value of the various given diagnostic criteria. Here we only wish to stress the fact that in certain cases of large gastric ulcer, there is no definite criterion either by means of the history, physical examination, laboratory findings, x-ray examination, gastroscopy, clinical progress, or even surgery by which one could with certainty tell whether the lesion is benign or malignant; and that only the microscopic picture is the ultimate diagnostic factor. A case which illustrates vividly the above assertion, and which fulfills completely the requirements for a diagnosis of benign gastric ulcer, came recently under our observation and forms the basis of this communication.

CASE REPORT

C. B., a thirty-eight year old white male, entered the medical wards of the Cook County Hospital, for the first time, on February 3, 1938. On admission he gave a history of periodic attacks of epigastric distress for about 12 years. These attacks would occur usually in the spring and fall and were of variable duration in length. The distress varied from a cramplike to burning pain in the epigastrium, occurred two to three hours after eating, was aggravated by heavy, fried, spicy and sour foods, and was promptly relieved by a dietary and alkaline regimen. Nausea and vomiting were associated at times. The bowels were usually constipated during these attacks. He was under the management of several doctors during the past 12 years and had received ten "shots" for his ulcer about one year ago with some improvement of symptoms. In November, 1937, he developed an attack of hematemesis and melena. These symptoms, too, subsided on his usual regimen. However, after this episode he never recovered as fully as previously, but continued to have a more or less constant epigastric distress which now was not relieved promptly by food or alkali. Two weeks before entrance he noted melena again. There was no appreciable loss of weight. The failure to recover as before and the presence of tarry stools led to his entrance to the hospital.

On examination, the patient appeared well developed, moderately well nourished, and not acutely ill. His temperature, pulse and respiration were within normal limits. The blood pressure was 130 systolic; 82 diastolic. The only other findings were tenderness and moderate rigidity over the entire epigastric region.

From the Department of Roentgenology, Dr. M. J. Hubeny, Director; and the Department of Internal Medicine, Cook County Hospital, Chicago.

The laboratory work-up revealed a negative urine, a mild secondary anemia, and occult blood in the stools. Fractional Ewald studies done on five successive days showed a fasting free acid from 28°-54°, and a free acid curve well above the average "normal" acidity.

Roentgenologic studies on the stomach, February 7th, revealed a large, smooth niche on the lesser curvature of the stomach, just beyond the angulus. There was also a crescentric defect at the apex of the duodenal bulb.

Because of the above history, clinical and laboratory findings, a diagnosis of benign gastric ulcer was made and the patient was put on a strict Sippy regimen. The patient soon became symptomless. The stools became negative for occult blood. Gastroscopy performed by Dr. Schindler demonstrated a large ulcer crater on the lesser curvature with sharp edges. This affirmed the impression of a benign ulcer. Hence, ten days after admission, the patient was discharged to the care of the Gastrointestinal Clinic.

diminution in the size of the niche (Fig. 2.). The patient was then advised to reenter the hospital.

He was readmitted March 21st and at this time he complained of a rather constant aching pain in the right upper quadrant which radiated to the back. Examination now revealed a temperature of 101° F., sunken cheeks, icteric tinge to sclerae and skin, liver palpable two fingers below costal margin, and a definite orange size mass protruding from under the right costal margin close to the xiphoid process. This mass appeared firm, tender and moved with the liver on respiration. Fluoroscopic examination showed a relatively fixed and elevated right dome of the diaphragm. The Graham-Cole test did not visualize the gall-bladder, the icterus index was 32. The urine contained urobilin, the stools were cholic and showed persistent occult blood. The white count was 9800.

Because of these findings, a diagnosis of subdiaphragmatic abscess was entertained despite the lack of any history suggesting a possible perforation of the

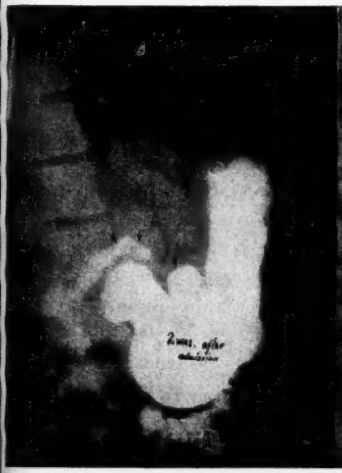

Fig. 1. Appearance of ulcer niche 2 weeks after admission—flattening of duodenal cap.

Fig. 2. Appearance of ulcer niche 8 weeks after initial entrance to hospital. Note the definite decrease in size of niche and duodenal deformity.

Fig. 3. Postmortem specimen showing heaped up edges of the carcinomatous ulcer and the crater in the center.

During a five-week period of observation in the Clinic he continued on a Sippy regimen without appreciable symptoms, except for occasional epigastric fullness. A second roentgenogram taken February 21, two weeks after the first admission (Fig. 1.) showed some decrease in the size of the niche. He gained five pounds in weight and seemed to be doing well until March 14th, when he complained of a dull pain in the right upper quadrant aggravated by deep inspiration and coughing. Examination revealed a high-lying but mobile right diaphragm; a temperature of 99.4° F. and a pulse of 102. Roentgenographic examination on March 26th confirmed the findings in regard to the diaphragm and furthermore, demonstrated a marked ulcer. The patient was therefore transferred to a surgical ward and an exploratory laparotomy was performed on April 4th. This procedure revealed an indurated area on the lesser curvature of the stomach compatible with a diagnosis of benign gastric ulcer. The subdiaphragmatic mass was found, but aspiration of the bulging prominence in the right lobe of the liver yielded only some thick bloody material. The abdominal wound was closed, and several days later an approach to the mass was attempted by way of a posterior route. However, the second exploratory, too, failed to reveal an abscess. Following this operation, the patient became moderately distended and more jaundiced, developed pitting edema of both extremities,

and after a progressively downhill course, died on the 14th of April, about three months after his first entrance to the hospital.

The necropsy performed by Dr. J. D. Kirshbaum, associate pathologist, revealed as the essential pathological changes the following: 1. Ulcerated carcinoma of the stomach with a large single metastatic node to the right lobe of the liver; metastases to the perigastric and peripancreatic lymph nodes and right upper pulmonary lobe; 2. tumor embolus and thrombosis in the portal vein; 3. benign peptic ulcer in the duodenum; and 4. moderate biliary cirrhosis.

DISCUSSION

In a very exhaustive review dealing with the differentiation of benign and malignant gastric ulcers, Rivers and Dry state that if a patient is young, has had long quiescent periods from his dyspeptic symptoms, has high gastric acidity, intermittent bleeding, diminution or disappearance of the ulcer niche radiographically, and improves under ulcer management the presumption for benign ulcer is very strong. In reviewing all the data presented in our case, one cannot fail to note how closely they agree with the above criteria for benignity.

It must be admitted that the persistence of pain in spite of treatment before his first entrance might have suggested a malignant transformation. However, other benign complications of an ulcer also cause constant pain until adequate treatment is given.

Moreover, on intensive management in the hospital his symptoms improved which again would speak for a benign, rather than a malignant process, although carcinomatous cases, too, may improve on medical treatment. The fact that he was comparatively young, had a long ulcer history, secreted a highly acid gastric juice, showed a diminution of the ulcer niche, gave a picture of a benign lesion on gastroscopic examination by a master in this field (Schindler), progressed so well clinically until his readmission when he developed symptoms of subdiaphragmatic abscess, and the fact that surgical exploration failed to reveal the true nature of the condition—all these would naturally support our belief that we were dealing with a benign gastric ulcer. The presence of the duodenal ulcer may in some way explain the high free acidity in this patient, but on the other hand, it may also be another support for the opinion that the gastric ulcer was benign, as the association of duodenal and gastric ulcer is considered rather common, about 13%, while the reverse holds true for duodenal ulcer and gastric malignancy.

SUMMARY

A case of a carcinomatous gastric ulcer is reported, which, until shortly before death, presented all the so-called "typical" findings of a benign lesion by all known diagnostic methods.

The fallibility of these diagnostic methods, at certain times, is stressed and more complete clinical study with other methods to be devised is urged in similar cases.

55 E. Washington Street.

VENEREAL DISEASE: SOME REFLECTIONS

J. Howard Beard, M.D.

URBANA, ILLINOIS

Desirable as is the increasing public consciousness of venereal disease and efforts to do something about it, the success of a movement in a democracy is endangered if it emerges too quickly and gains momentum too rapidly. Public interest and enthusiasm are tremendous assets, but there must be time for education of the man on the street, opportunity to get a proper perspective, and a chance to study the implications and consequences of proposals presented. Otherwise, loss motion develops, absurdities appear, and embarrassing retreats become inevitable.

There is also the risk that under pressure for action commitments may be made or programs approved which are too inelastic for the changing needs of a community. Principles which are fundamental are usually safer than procedures adopted under demand for immediate action. The haste of the public to do something about venereal disease calls for emphasis of the fact that a battle of a century is developing, not a skirmish of a lifetime.

Premature Procedures Already Apparent. Premature procedures, consequent mistakes, and impending retreats are already apparent. Laymen who solve problems by legalistic methods have urged enactments neither well considered nor effective, some of which have so far anticipated the creation of public opinion that sixteen legislatures have refused to pass so desirable laws as those demanding proof of freedom from

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venereal disease in an infectious stage before issuance of a marriage license. Lawmakers in one state were so pre-occupied with the seriousness of syphilis they entirely forgot the equally grave menace of gonorrhea and required a certificate of freedom from only lues.

In other states, laws passed to insure freedom from venereal disease preliminary to marriage are obviously defective, cause unnecessary inconvenience, or their enforcement is in the hands of medically untrained officials instead of in the state department of health whose staff is best prepared to administer regulations for the control of communicable disease. With laws administratively improper and scientifically inadequate, a retreat with its difficulties and embarrassments is inescapable.

The prevention of venereal disease is primarily a socio-economic problem and its control is dependent upon systematized social action. While its treatment is chiefly medical, its conquest is neither the sole responsibility of the health officer nor of the medical profession, but is the greatest cooperative enterprise which has ever challenged the united efforts of the American people—the educator and the philanthropist, the legislator and the statesman, the social worker and the clergyman, the policeman and the judge, the nurse and the sanitarian, and the public and the individual.

It should be borne in mind that the public does not have a high tolerance for sustained effort and that its interest and enthusiasms quickly change. When syphilis swept over Europe towards the close of the fifteenth century it was considered a catastrophe, but fear eventually gave way to indifference. Later it became the subject of jest and funny stories. Under the repression of prudery, a long silence followed, to be broken by the high resolution and strenuous striving for efficiency associated with the World War—then public interest in venereal disease ceased. The spirocheta pallidum and the gonococcus were forgotten along with "making the world safe for democracy."

Marginal Fields. It neither decreases the value of serodiagnosis nor minimizes the importance of any group to indicate that in syphilis, as in agriculture, there are marginal fields where the law of diminishing returns is operative and efforts are hardly justified by the yield. While it is most desirable to locate every case of lues to control infection and to give appropriate treatment to avoid sequelae, when funds are restricted, the most important needs for the reduction of illness, death, and economic loss should come first; later, less urgent activities may be undertaken.

For example, compulsory Kahn tests on average high school or college students are not wise expenditures of limited funds. Tests done on 20,000 students throughout the country have been found to be positive once in 500. In one Midwest university 2,000 tests on freshmen were all negative. Even if the test costs only forty cents, in the first instance $200 was spent for one positive finding which may or may not indicate the presence of syphilis; in the second, $800 brought only the gratification of knowing that 2,000 freshmen failed to show a single positive test. Such investigations with negative results are valuable when done for the first time, but do not warrent repetition.

Positive tests for syphilis are of great presumptive value, but they are not infallible. There is no ideal serologic test for lues either as to specificity or as to sensitivity. When the positivity of tests lacks two to seven per cent of accuracy, the doing of 499 such tests before getting one positive result in individuals free from clinical symptoms would seem a typical example of putting money and effort in marginal, if not barren, soil. Furthermore, there is little to choose between the error of missing a case of syphilis which later may be discovered and the mistake of making a diagnosis and treating a person for the disease who is entirely free from it.

With syphilis on every hand and with limited funds, it would seem sound procedure to pick up the many luetic needles in reach and for the moment to forget the one in the haystack. I refer to those groups where incidence is very low and education is at its best and not to the vigorous pursuit of contacts.

Where Large Dividends May Be Expected. The great dividends on investments of money and effort in combatting venereal disease are to be obtained in education and prevention. Intensive investigation and supervision of sources of infection offer far greater returns than 500 tests on symptomless individuals to discover one positive Kahn on blood which may be repeatedly Wassermann negative. This fact does not in the least discount the value of serodiagnosis or

lessen its importance as a means of discovering new cases, but it does show where a dollar can be made to do the most in the control of syphilis.

Case finding is the most powerful weapon in the battle against syphilis. It gets the pregnant woman under treatment to prevent the birth of a luetic child, uncovers infectious cases which are contacts with others in the early stages of the disease, and thus multiplies the opportunities for dealing with more foci of infection.

Tracing contacts is often difficult, discouraging, and rarely so numerically spectacular as the Wassermann dragnet, but in the control of syphilis the discovery of one infectious case is worth the finding of a dozen seropositive individuals with late lues. Great emphasis upon infectious cases is in no sense the advocacy of the omission of thorough treatment of tertiary, quaternary, or metasyphilis. It does, however, indicate the relative value of efforts in the various stages of the disease and points to where chances of control are the most promising.

Second only in dividend production to preventive measures and early diagnosis are therapeutic procedures to render syphilitics promptly non-infectious. Of similar value is the wide use of the newer, more efficient methods to cure gonorrhea to prevent both the occurrence of new cases and disabling complications.

Scandinavia, Great Britain, and Canada have shown what was readily predictable, namely, that thorough treatment reduces the sequelae of syphilis and saves thousands of dollars which would have to be spent for the tabetic, paretic, and those otherwise made invalids. In Denmark over 98 per cent, of the patients with syphilis complete the full course of treatment; in this country 60-80 per cent stop treatment before they have twenty doses, and many more never finish taking the arsenicals and heavy metal necessary for cure. The problems of syphilis in the United States is not only one of prevention and therapy but of persistence with treatment until cured.

Holding Gains. To stamp out syphilis and gonorrhea requires more than serodiagnosis, arsenicals, and heavy metals or sulfanilamide, vaccines, and heat. The marked reduction of syphilis in Denmark and Sweden is proof that early diagnosis, prompt treatment, and epidemiological methods drastically decrease and curb this disease, but it is not a demonstration that lues can be entirely eradicated without moral prophylaxis.

In these countries the still relatively high incidence of gonorrhea leaves little doubt their problem is not yet half-solved. It indicates clearly that contacts are still being made which spread gonorrhea and may give rise to epidemics of syphilis with the introduction of sources of infection. The measures employed to combat lues, while productive of great good, are in their final analysis those of repression and not of extinction.

The extermination of venereal disease without the suppression of prostitution requires an effective fool-proof prophylactic, an antigen of great immunizing power, or both. By only such protection is it possible to eradicate contact diseases without elimination of their means of spread. Unfortunately, no such agents are now at hand.

Unless and until the American people are ready to attack prostitution and promiscuity by vigorous education, wholesome recreation, suppression of red-light districts, improvement of the economic condition of women, and the social rehabilitation of prostitutes as far as it is practical and to provide institutional care where necessary, the public may expect to continue paying handsomely for the diagnosis, treatment, sequelae and recurring epidemics of gonorrhea and syphilis.

Even to suggest that the abolition of prostitution is a prerequisite to complete success in the extinction of the gonococcus and the pale spirochete is to risk showing an inexperience which by comparison makes Simple Simon a man of affairs. The difficulties of suppression are tremendous, but at our present level of knowledge they are not as great, nor will it take as long as the complete eradication of venereal disease with the handicap of promiscuity.

The Vigor of Delicate Organisms. The last chapters of the life history and adaptation of the gonococcus and the treponema pallidum are yet to be written. These organisms are usually considered extremely delicate and difficult to cultivate but they have not lacked the resistance to survive for many millenia nor the adjustment to meet such changes as have occurred in their natural environment.

The results of hyperthermic treatment of gonorrhea show sufficient variation to indicate that there may be strains of the gonococcus which are thermophilic beyond the range of

safe therapeutic temperatures. Since this bacterium attacks with variable virulence, its strains apparently differ in ability to invade human tissues, power of protecting themselves against unfavorable environment, or both. Highly virulent gonococci, like all microbes producing grave infection, promote their own extinction through the seriousness of the illness they cause, the thorough treatment they invoke, and the limitations they put upon the intercourse through which they spread. Less virulent organisms attract less attention, scatter widely, and survive.

Certain strains of treponema pallidum also exist in the body and disseminate because their symbiosis with the cells of their host is so nearly perfect as to be asymptomless, a characteristic of great survival value because of reservoirs thus established for its perpetuation. Does this type of the spirochete develop an outer membrane less permeable to spirocheticidal substances, does its chemical composition too closely approximate tissue cells to stimulate a profound response, or does it produce so few aggressins —so weak an offense—as to cause little reaction in its host until some unfavorable condition destroys the status quo? Obviously, it is not without its own means of survival.

The treponema attacks all races. In whites, it frequently invades the nervous system; in blacks, the heart and blood vessels. Even in individuals of the same group and for the organs of the same person it shows remarkably diverse affinities. Perkel and Pautrier have pointed out that the reciprocal action between the host and the parasite may so attenuate the virulence of the organism as to give rise to asymptomatic syphilis. Brown and Pearce have shown that the treponema may enter the body through the intact mucuous membrane and cause slight if any symptoms. This fact may account for the greater frequency of asymptomatic syphilis in women. It also favors the existence and spread of lues.

Schoch has confirmed the conjecture of clinicians by his discovery of certain strains which showed resistance to arsenic both in human beings and experimental animals. There are also those able to withstand concentrations of bismuth or mercury beyond the tolerance of the tissue cells of the idiosyncratic.

If antiluetic drugs are not only spirillicidal but stimulative of defense mechanisms, their failure to invoke adequate response of the cells of the host may result both in failure to cure and the existence of a carrier state. The behavior of certain cases of gonorrhea under treatment with sulfanilamide suggests a similar reaction between the gonococcus and its host.

Science Is Not Enough. Knowledge is available to reduce the occurrence of venereal disease and to prevent the suffering associated with sequelae of syphilis and the complications of gonorrhea. Medically, the trail has been blazed. The experiences of Denmark, Scandinavia, Great Britain and Canada are conclusive proof of the feasibility and benefits to be derived from an intelligent and sustained attack upon syphilis. Unnecessary delay in educating the public, in providing facilities for early diagnosis, in tracing sources of infection, in following up contacts, in giving adequate treatment, and in rehabilitating those who have had venereal disease is unwarranted and costly. But science is not enough.

To point to the disappearance of cholera, typhoid fever, plague, yellow fever and malaria from a community as evidence of what may be expected from a campaign against gonorrhea and syphilis is to argue by an analogy where there is a difference. These diseases have been eradicated largely by an attack on the environment through engineering, sanitation, and entomology and not by the cooperation of every individual.

The limited success in dealing with tuberculosis, diphtheria and smallpox is no criterion of what may be expected in a campaign against venereal disease. It emphasizes more the difficulties to be encountered than achievements to be recorded. Surely, if a disease so easily prevented as smallpox can assume epidemic form in hundreds of communities, 142 years after the discovery of vaccination, the treponema pallidum and the gonococcus are in no immediate danger of extinction.

In its use against venereal disease as in other fields of endeavor, science may end in frustration unless men can develop a stronger sense of moral responsibility. Medicine may ultimately fail to eradicate gonorrhea and syphilis because it is unable to turn off the spigot while mopping up the floor. The extermination of the gonococcus and the pale spirochete is as much dependent upon the control of the powerful instinctive drives of sex and acquisitiveness as upon epidemiology and therapy.

With syphilis occurring at the rate of four cases per 1,000 and gonorrhea with an incidence two or three times that of lues, facts seem to make the advocacy of moral prophylaxis foolish and futile. Yet, it is still potentially the most effective preventive against venereal disease and realism records no great achievement which has resulted from not trying what would work because it was difficult. Moses, the founder of preventive medicine, reinforced sanitary practice with moral and religious sanctions and has made his influence felt for forty centuries.

The developing attack on venereal disease throughout the world is humanity's acid test. It is a sensitive "destinometer" which will reveal whether man is only a brute handicapped by an imagination which gives zest to his selfishness and perverts his instincts or is capable of taking thought and making reason, goodwill, and social progress the motivating forces of his existence.

DISCUSSION

Dr. Arlington Ailes, LaSalle, Ill.: On hearing Dr. Beard's paper one gets a feeling of pessimism about the venereal disease problem—even a doubt as to the immensity of the problem and the reliability of laboratory procedures for diagnosis. This is occasioned by Dr. Beard's statement of the relative infrequency of positive Wassermans in high school and college students (less than 1 in 500), and the fact that the Wasserman test is inaccurate in a percentage greater than that (2 to 7 in 100). However, a careful reading of Dr. Beard's paper, which I have had an opportunity to do, forces me to agree with him, and that he is sounding a note of caution against overoptimism rather than pessimism.

There is no doubt that the present wave of public consciousness about the venereals will die down, as Dr. Beard says, but there will be one thing left as a result, which will be of incalculable value in the century fight against these diseases, and that will be the almost complete elimination of prudery regarding them. We will still be able to speak publically about them by word of mouth, the public press and even by radio. It is then up to the leaders in public health to outline programs against these diseases and, because of the economic problem, stick close to fundamentals and the so-called pay-dirt procedures, rather than go browsing around in the marginal field, as pointed out in the paper. This is always good public health practice and applies as well in our efforts to control other communicable diseases and promote the public health.

There are other large groups of people, outside of the marginal fields, which would pay much larger dividends in positive Wassermans, yet the wholesale testing of any large group probably cannot be sustained for very long, and probably is not practical. With the elimination of prudery, however, we as public health officials and public health minded physicians, can keep the public always aware of the seriousness of these diseases, and the necessity for their prevention and complete cure when contracted. We can at least sustain our own program even if the present wave of consciousness, about these diseases cannot be sustained. Undoubtedly education comes first, and we now have the opportunity to educate. There is even considerable doubt as to the best method of education for prevention. We in America would stress the seriousness of these diseases, but in Russia, I am told, they are stressing sex hygiene and radiant health from early childhood to adulthood, and are claiming good results. In other words they are teaching the positive rather than the negative side of the question.

The campaign of education, of course, is only successful if it leads to prevention; and as Dr. Beard points out this is a socio-economic problem, and is not alone the problem of the health officials nor of the medical profession, but of all other leaders in society as well. It involves not only the elimination of prudery so that we can talk about it, but the acceptance of all scientific principles for prevention as well. We should not only teach radiant health, freedom from disease, morality, self-restraint, self-respect and all that, but to those who are actually weak and succumb despite such teaching, there should still be hope of prevention in the judicious use of prophylaxis. In other words we should have compassion on the sinner sufficiently early to attempt to save him from the dreaded end result, and the probable spread of the disease through him to others less innocent than himself.

As Dr. Heard points out the control of these diseases is different from most diseases in that they cannot be controlled by vaccines or serums, or by control of the environmental factors. They are propagated, almost wholly, by one of the strongest of biological urges, which has never been controlled. This urge is the foundation of prostitution, which is said to be the oldest profession, and which, in its various phases, has never been satisfactorily controlled. Among the social and economic changes advocated to control prostitution and promiscuity let us add early marriages. Sublimation is hardly to be expected as a solution when it must endure for a period of ten or twenty years as is now the custom. The highest attack rate for syphilis is between 20 and 30 years of age, which coincides with the period of greatest vigor and beginning sophistication.

Where our campaign of prevention ends cure begins. This not only is for the urpose of curing the individual and promoting his own health and happiness, but to make him non-infectious to others. This naturally involves as complete case finding, as possible, particularly the infectious case, and the tracing of all sources and contacts. Here again to approach even partial success we may need some social change. We may need to approach what might appear to be social medicine, somewhat similar to some of the European methods. The state is even now supplying free drugs for all cases of syphilis, and they may later feel impelled to pay all costs, and even add compulsion or penalty for thse negligent in treatment. Let us hope we can control these diseases in the American way.

Finally I must agree with Dr. Beard that the adaptability of these organisms in the human host, to match efforts at eradication, combined with our other diffi-

culties of control, will probably forever prevent complete extermination. Our tissues will probably meet the germs half way by developing some degree of tolerance, or resistance, and the germs themselves will be forced to modify their virulence by the law of the survival of the fittest during the battle of the century. This has occurred in other diseases with various races who have been in long contact with a particular disease; as for instance, the negro and yellow fever, and the white race and tuberculosis. In syphilis there is not now the same virulence as occurred in the fifteenth century, and in comparatively recent times there appears to be a lessening of virulence, not based entirely on the improvements of treatment.

With it all I think we should be optimistic, rather than pessimistic and expect in this "Battle of the Century" to gain virtual control, if not complete extinction.

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CLEFT PALATE SURGERY

LOUIS W. SCHULTZ, B. S., D. D. S., M. D., F. A. C. S.

Department of Surgery, College of Medicine, University of Illinois, Research and Educational Hospital, Department of Public Welfare.

CHICAGO

This paper deals primarily with the closure of congenital cleft palates. All I will say about the etiology is to express the belief of most authors that heredity sometimes plays an important role.

Early closure of these clefts is for me the most important factor in this reconstruction work. Many of the narrower clefts of both hard and soft palates I close successfully at three or four months of age by one operation. If the cleft is too wide to be closed by a modified Von Langenbeck operation, I do a modified Brophy or moulding of the osseous structures to narrow the cleft first and close the latter a couple of weeks later. For best results this should be done as soon as the baby is in good physical condition. Hence the palate is closed when the baby is about two or three months of age. Infants not properly fed should be hospitalized and gavaged to bring them up to weight.

The advantages of early operation are so important that they far outweigh the disadvantages. A brief summary follows:

(a) Baby is a normal feeding problem after closure of palate.

(b) Development of such palates is normal after their closure.

(c) Frequency of middle-ear disease is reduced to a minimum, because the eustachian tubes now function normally, since normal muscle action is established. The palatopharyngeus, levator veli palatini, and the tensor veli palatini muscles have a portion of their origin at the orifice of the eustachian tube which normally ventilates the middle-ear in the act of swallowing. This fact is of great importance in the prevention of chronic deafness later in life, for, unless the palate is closed they do not function.

(d) No speech defect results when palate is long and closed before five or six months of age.

(e) The child will not develop an inferiority complex due to faulty speech with its attendant

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embarrassment when with his or her playmates.

(f) Bad habits, such as immobility and lack of coordination of tongue and lip movements, are not developed when these parts are united and function normally. In neglected cases, the postnasal chambers cannot be closed by the soft palate, the tongue lies motionless in the floor of the mouth and the lips do not move properly to produce articulate speech. Hence there is no synchronization of these parts resulting in so called "cleft palate" speech, a handicap which is hard to correct in later life.

To contact these babies, children and adults, is to realize the necessity of careful, early operation. It is my opinion that the man who delays correction by surgery until the baby is five, six or seven years old has done great and sometimes irreparable harm in permitting the development of an inferiority complex in such children, to say nothing about the mental suffering of both parents. No child with normal parts present, but not united, should ever be compelled to use an obturator. An honest attempt to close the cleft should always be made.

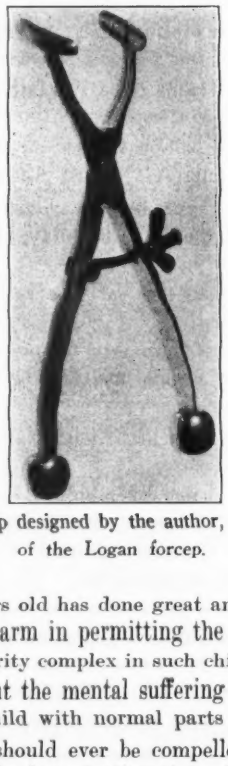

Fig. 1. Forcep designed by the author, a modification of the Logan forcep.

Disadvantages:

The only disadvantage I can think of in cases requiring the Brophy operation is the subsequent possible but rare lack of development of the upper jaw, which can be eliminated by using the forceps developed by the author and by some modifications of the Brophy technic.

The moulding operation to correct the bony foundation over which the soft structures are subsequently draped and united is carried out only on cases in which the cleft is too wide to close in one operation. This does not apply to the premaxillary bone which is always reduced when protruding.

The first step in Brophy's modified operation is to mould the bony structures with the help of the forceps I designed which is similar to the Logan forceps. 1. This is done by placing the jaws of the moulding instrument in the vestibule of the mouth, a blade on each side of the upper jaw and exerting gradually increasing but steady pressure sufficient to bring the two maxillary bones close enough together to contact the inter-

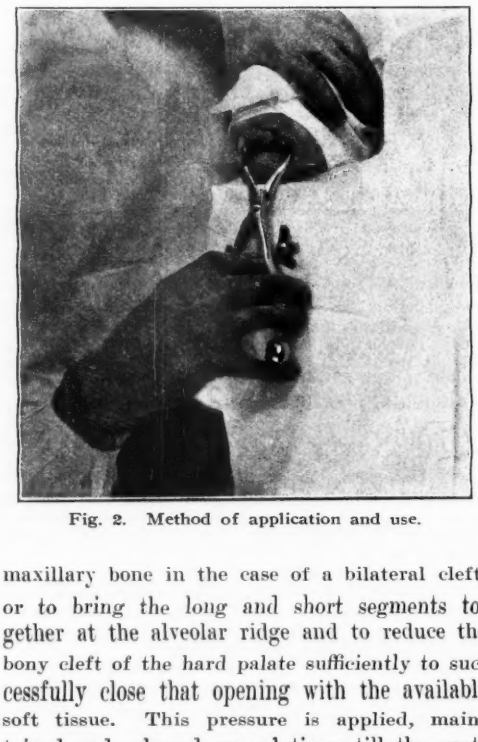

Fig. 2. Method of application and use.

maxillary bone in the case of a bilateral cleft, or to bring the long and short segments together at the alveolar ridge and to reduce the bony cleft of the hard palate sufficiently to successfully close that opening with the available soft tissue. This pressure is applied, maintained and released several times till the parts will remain in their new position with practically no tension on the appliance used for fixation. 2. The technic laid down by Brophy for the insertion of silk, silver wires and lead plates is followed in almost all cases. The silver wires have been replaced by me with Allegheny steel wires in some cases and found to be of decided advantage where more strength is desired.

The palate can usually be closed about two

weeks after the moulding operation and while the lead plates and wires are still in place.

The hard and soft palates are always closed in one operation. A two-stage affair necessitates an extra operation, an extra anesthetic risk and tends to cause more scar tissue. First step: The mucoperiosteal flaps are raised from the bone and the edges of the soft palate are split into the musculature of the azygos uvulae. No more is done in the way of preparation or relaxation of tissue in the ordinary case. Shortness or tightness of the palate is met with appropriate means of relief as described below.

Closure of the flaps is the next step; this is done by placing interrupted chromic gut sutures into the upper or posterior surface of the soft palate. Starting in the mucous membrane on the nasal side and passing a half inch full curved cutting needle down through the aponeurosis, repeating the same in the reverse order on the opposite side, the suture is tied with several knots on the nasal surface of the palate. Sutures are all cut short, up to the knot. A cleaner wound results, enhancing its ability to heal by first intention which is so desirable in this work. These sutures extend along the entire length of this surface of the soft palate. The oral surface of both hard and soft palates is closed with dermal sutures. Mattress sutures interspersed with interrupted sutures are used and as described above four to six knots are tied and cut short.

The sutures are always allowed to remain for at least ten days to two weeks. If wires and lead plates have been inserted two weeks previously they too, are removed at this time. Thus the wires and plates have been in not longer than four weeks and this is ample time. Using the Brophy technic the jaws are kept wired for at least six weeks and the palate is closed in infants at about eighteen months, while my method corrects all palatal defects before the third month of life, a decided advantage to the baby in its development.

Should more relaxation of tissue be desirable or necessary for closure, it is obtained by making lateral incisions along the alveolar ridge or, later in life, along the necks of the teeth if wanted in the anterior part of the palate. Relaxation at the junction of the hard and soft palate or in the soft palate alone is obtained by making incisions distal to the tuberosity and with a chisel tripping the tensor palati off the hamular process. These openings are packed with iodoform gauze impregnated with compound tincture of benzoin. Such packing has a threefold action: first, to control hemorrhage; second, to further approximate the tissue; and third, to prolong the relaxation to further favorable healing.

In conclusion, let me say that the method of reducing the size of the cleft described yields several decided advantages:

1. The age limit recommended for Brophy's operation is six months, rarely longer, while by the method devised by me no age limit has been established as yet because it is still too new. My oldest case was six years of age, several at two and three years and all responded nicely.
2. The palate can be closed much earlier than eighteen months.
3. Palate closed at two or three months, often with one operation.
4. Better development of palatal tissues because of early union, usually making speech training unnecessary.

25 E. Washington St.

DISCUSSION

Dr. F. W. Merrifield, Chicago: I think it probably would be well to say in opening that there is little doubt in my mind that the successful completion of an operation on a child is one of the greatest things that can be done for any child. A child who has a clubfoot or a congenital dislocation of the hip is handicapped, it is true, but if that child can present a pleasant face and smile, and can speak distinctly, he is not under the handicap of harelip uncorrected or corrected poorly, or with the speech defect that accompanies all the cleft palates. I must congratulate Dr. Schultz on his excellent presentation, and the results speak for themselves.

Since 1828, historically, we have had the search for successful lip and palate operations, and since then many men have devised many operations on both lip and palate. The results obtained are matters of difference of opinion. There is no royal road to Rome. Probably one great departure in the correction of the palate was that devised by Brophy, substantially the technic Dr. Schultz has presented. As he remarked, it has been condemned by many people but it still has advocates. Dr. Schultz says it is not applicable to every case, and I think the controversy arose over the severity of the operation and the occasional report of a case in which the bones of the face or maxillary bones failed to develop. Brophy's premise was that all the structures were there in more or less natural condition. Whether that is the case there is some room for discussion and the fact that development did not occur in a number of cases probably supports the theory that they did not continue to develop.

However, more recently, Logan and Kronfeld have pursued investigations on the rationale of operation, particularly with relation to development of the structures and teeth. Their investigations have done a great deal to re-popularize the technic of bony replacement prior to the attempt to close the soft tissues. So far as functioning of the palate is concerned, it depends entirely upon the approach to true muscle function when the soft tissues are re-united. Unless some soft tissue can be provided, or is there already, the closure of the palate is not sufficient to provide function. The lengthening is not enough. The closure of the oral pharynx depends upon adequate muscle control not only by the muscles of the palate but also those in the pharynx.

The palate lengthening operation devised by Dorrance severed the blood supply of the palate, similar in principle. The operation of Brown, associated with Blair in St. Louis, does not sever the blood vessels supplying the palate; he merely pushes the palate back. These operations are not applicable to cases in which the Alveolar ridge is cleft. He sutures the palate to the nasal mucosa.

Regarding the preservation of speech function, the chances are that very few operations for harelip or cleft palate are 100 per cent perfect, and the possibility is that absolute speech function is rarely more than 70 or 75 per cent. perfect without speech training. The most favorable time is thought to be within the first year, but an operation between the first and second year, up to twenty-four months, returns less in speech function than the earlier operation. The advantage claimed for the later operation is the greater development, and children stand operation better at a later date. So far as various stages of operation are concerned, I cannot understand the reason for doing twenty or thirty on a palate as Dr. Schultz has said sometimes happens. Our plan has been to close the lip as early as possible, and it is astonishing how much the pressure thus developed does to close the palate. The second operation is done about a year later. If the soft tissue available appears to be inadequate, a stitch may be put in by means of lateral incision and elevation of the palate, done at the first operation, and with packing the palate remains elevated and a certain amount of space is gained by leaving it in for several days.

Great importance is to be paid to preoperative and post operative care. I am essentially in accord with everything Dr. Schultz has said, and I have enjoyed listening to his paper very much.

Dr. Casper Epstein, Chicago: Until a few years ago it was generally thought that a cleft palate had as much tissue as was normally present in the normal baby, but that the deformity was due to lack of apposition of the tissues rather than to lack of the tissue itself. Only recently has it been determined that there might be a lack of tissue as well as a lack of union in the separated tissue. This is evidenced by the fact that recently operations have been performed by which the palate is lengthened in order to obtain the proper speech. The breadth of the upper jaw is just as wide as it should be; it is wider than normal in direct proportion to the width of the cleft in the palate.

Dr. Brophy used to say that we treat these cleft palates as any surgeon would treat a fractured arm, i.e., put the bones into proper apposition and keep them there until they are completely united.

There is one form of cleft palate that Dr. Brophy spoke of that is not mentioned in this classification shown on the chart, namely, a complete cleft from the uvula to the ridge in the midline. Dr. Brophy has pointed out that Forms one to six inclusive, should be operated on between 18 and 22 weeks. Since the work of Logan and Kronfeld we have learned that Forms 7 to 14 inclusive should be operated upon between 10 and 12 weeks. The bones should be brought together with the ridge in proper position, and so held for four to six weeks. It has also been shown that between 10 and 12 weeks of age there is a very definite amount of space between the permanent and deciduous tooth buds and it is possible to so place the wires as not to injure these buds. Therefore the first operation should be performed between 10 and 12 weeks in order to close the bony ridge. Now as to Forms 1 to 6, excluding Form 1—these should be closed at 18 to 22 months because it is about that time that the child begins to speak and it is not only necessary to obtain anatomic development but functional development as well; if the palate is closed earlier it is difficult to get functional development, more difficult than if the tissues are placed in their proper position at the time the child begins to talk. I close the lip about four to six weeks after the hard palate is closed.

Regarding the preparation of these children, I call in a pediatrician for a complete and thorough examination.

I feel very definitely that the thymus should be radiographed and if found to be enlarged, it should be treated with the x-ray. I think it has a very definite bearing on ether anesthesia, and I have seen ether anesthetics administered to babies, both with enlarged and with normal thymus glands. Those in which the thymus gland is normal in size react much better to the anesthetic than those children in which the gland is enlarged. The child is exposed to ultraviolet radiation for two to three weeks before operation. There is absolutely no reason why these children should not be in the best possible condition for operation. Following operation these patients are placed in a private room or with other cleft palates or cleft lips. We do not put them in the same room with other types of cases because they are very susceptible to infections. We tie their hands down to the bed or put on arm cuffs, so as to prevent them from putting their hands in their mouth. I emphasize to the nurses that their job is just as important in keeping the mouth clean as is the surgeon's in closing the cleft because if allowed to go uncleaned, suppuration may occur, with subsequent sloughing and an opening.

Dr. Schultz also mentioned the possibility of lack of development of the upper jaw with the Brophy operation. During the time I was associated with Dr. Brophy, I did not see one case in which there was a lack of development. It may be that my next one will, but in the series we have had I have not seen one. I do not do the moulding operation although I can see its advantages. I have been able to close the palatal ridge

with one operation using silver wires and lead plates.

I think we should avoid a lateral incision whenever possible, as it increases the amount of scar tissue and retards the movements of the soft palate in speech. In a very wide cleft I perform a series of operations, first swinging a flap from one side and then swinging a flap from the other side, until the entire cleft has been closed, so that the entire palate does not have to be drawn across to cover the defect in one operation. I find it is a decided advantage.

Dr. L. W. Schultz, Chicago, (closing): Just a few words with reference to what Dr. Merrifield has told you. Men who have tried to close these wide clefts have met with frequent failures, and they will continue to fail if they try to close the tissues under tension. The flaps must fall together. Most of mine not only go together, but overlap before I insert the first sture. Such cases should be one hundred per cent. successful.

An early closure means more to these babies than any other treatment I know of, but it is very difficult. One slip of the suture and a buttonhole results. Moulding the bones is paramount where indicated and should be done first. This is done easily and accurately with the forceps I devised, which permits an unobstructed view of the parts being moulded and there is no slipping. This technic is more accurate than the one I used originally.

Nothing has been said about the seasons best suited for these operations. Many men will not operate during the winter. I operate throughout the year, winter or summer and see no reason why it should not be done as successfully during winter as during summer. Obviously, there is less likelihood of the development of contagious diseases and pneumonia in summer time, but postoperative care overcomes this tendency during the cold season. If the work is done correctly, the parts properly approximated and the blood supply preserved, the results do not vary with the seasons.

Lack of success with the moulding operation may be due to the desire of the operator to overcorrect. The result is a curve of the arch toward the median line on both sides, which is poor surgery. These structures, both hard and soft, cannot be handled too delicately.

Relaxation of the soft tissues, conservation of the blood supply and proper approximation are fundamental for success in palatal surgery. Next in importance to get good functional results is speech training.

We are fortunate to have a teacher in Chicago who is very successful with those cases. Her intelligence and patience, both of a high type, are applied unsparingly in the training of these children. And they need such care. They are born with certain inherent qualities. They do not have to be taught how to swallow, but when they try to speak and are unsuccessful, no matter how hard or how often they try, they are defeated. That experience constitutes an insult repeated every time they try to talk. They cannot reproduce the sounds made by their mother.

For that reason the palate should be closed so that they have the proper anatomical mechanism, and with infinite patience, they should be taught the proper use of tongue, palate, etc., until the goal, viz., perfect speech is reached.

PEDIATRIC TREATMENT OF OTOLOGIC SEPSIS, INCLUDING MENINGITIS

PHILIP L. ARIES, M. D.
CHICAGO

The general principles of treatment of otologic sepsis in children are the same as for sepsis resulting from infection anywhere in the body with special treatment to the ear and its associated structures. Maxwell[1] recently discussed this subject from the viewpoint of the otologist as "The Management of the Septic Patient with Otitis Media" to emphasize the fact that otitis media may be an incident in the course of a septic condition originating elsewhere. He points out that 1. a local or general infectious process producing a picture of sepsis may antedate the otitis media which is secondary and not actually responsible for the sepsis. 2. In the course of a suppurative otitis media an intercurrent infection as pneumonia, endocarditis, or a kidney infection may develop and cause the septic state. 3. a true otitic sepsis from otitis media, mastoiditis, or sigmoid sinus involvement may exist.

It is a common experience to find the pediatrician attributing a spiking fever to an ear infection while the otologist insists that the local findings do not warrent surgical interference. The reverse is also true at times. It falls upon the otologist to determine when an ear infection requires surgical drainage and also the type and extent of the surgical procedures to be performed. In the virulent types of infection it is also necessary to institute early such therapeutic measures that may bolster up the patient's resistance to the infection or that may directly inactivate the causative organisms and the toxins they produce. The timely administration of such agents, in addition to judicious surgery, may prevent serious otologic complications as septicemia and meningitis. In the event of the development of serious complications, the administration of such therapy will offer the patient a better chance for an eventual recovery.

The members of the eye, ear, nose, and throat section of this society are primarily interested in the surgical aspects of otologic sepsis. The

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problem has many phases, some of which are still in a controversial state even among men of long experience. We pediatricians look to the conclusions that result from the exchange of ideas at meetings such as this one. All agree that drainage of an infected area should be instituted at the opportune time. It requires good judgment and a thorough knowledge of pathology in addition to technical skill to do this and yet not break down naturally protective barriers. The symptoms and physical findings will dictate to the experienced surgeon whether a mastoidectomy or more extensive exploration of the sigmoid sinus is necessary. The question as to whether the internal jugular vein should be ligated has been discussed by Ersner and Meyers[2] who believe this operation offers no great benefit. Other authorities have found from their experience that jugular vein ligation is absolutely necessary in many instances. Over-manipulation can, however, undo the benefits of a well-indicated and timely performed operation.

Once the offending organisms and their toxins have entered the circulation and symptoms of septicopyemia and bacteremia become manifest, the treatment must be systematic and rational if the patient is to survive. Secondary foci of infection must be watched for and drained at the opportune time. It has been shown that organisms do not multiply in the blood as much as there is a constant invasion of the blood stream by organisms from primary and secondary foci of infection. Other pathological processes caused by the original infection as severe nutritional and digestive disturbances, particularly in young infants, require special treatment. A disturbed protein, mineral, or water metabolism may be set up. Toxins destroy blood elements and overtax the capacity of the body to produce new red and white blood corpuscles. In the same way antibody production is curtailed. The resisting forces must be supported by outside assistance in order to turn the tide toward an eventual recovery, even after the foci of infection are drained or eradicated.

In the terrifically virulent types of infection which produce rapidly progressive and fulminating septicemias such aids are unfortunately not effective. Sera, blood transfusions, and drugs are of no avail. In the more slowly acting types of infection where the resistive forces of the patient fail gradually after days or weeks these medical adjuvants lend that extra stimulation that may give an apparently hopeless situation a favorable turn. In evaluating therapeutic procedures Brennemann[3] reminds us that "the human being and notably the child has an intrinsic power of returning to a normal state and has moreover a mechanism of defense and of attack, of immunity and of resistance, to many diseases that has taken ages to develop and that in many instances is a marvel of efficiency as compared with so many of our conventional therapeutic procedures."

In the anxiety to do something for the patient, to make accurate diagnoses and to know from day to day what course the disease is taking, it is always necessary to keep in mind that rest is a most important aid to recovery. Physical examinations, therapeutic and laboratory procedures should be carried out with the least possible physical and mental disturbance to the child. Not one superfluius manipulation should be permitted. Sedation may be produced by such hydrotherapeutic measures as sponging or tepid packs. These are often superior to antipyretics in reducing a high fever. Sedatives as amytal and phenobarbital are useful. When other measures fail an irritable, exhausted patient gets relief only upon the administration of morphine or pantopon.

Feeding a sick child often becomes one of the major problems in the management. In the case of the infant a well balanced, easily digested milk mixture is important. There is a marked individual variation in the type of food an infant can tolerate when ill. It is here that the familiarity of the pediatrician with these preparations offers especially great assistance. It takes a patient and tactful nurse to feed a sick child. This is particularly true in the large number of children we see who have poor appetities under normal conditions. Easily digestible food of high caloric value made to please the eye as well as the palate serves best. Forced feedings are usually unsuccessful and irritate the patient to an unwarranted degree.

It is imperative that an adequate amount of fluid be ingested. Fluids dilute and increase the elimination of toxins. The child should take by mouth, whenever possible, at least as much fluid as would be taken under normal conditions. This is usually about 1200 cc. a day for

a two-year-old child. The tongue should be moist at all times. Glucose may be added to fruit juice drinks. When fluids are not taken or if vomited it is necessary to administer fluids parenterally. We have found the method of choice to be the continuous intravenous drip of a five per cent. dextrose solution, dextrose in saline or in Hartmann's solution. The intravenous route is less painful and larger amounts of fluid can be given over longer periods of time as compared with subcutaneous, intramuscular, or intraperitoneal administration. The veins usually used are the cuboidal or the ankle vein anterior to the internal malleolus. Spivek[4] has described an efficient technique for intravenous fluid injection. The fluid is permitted to drip into the vein at a rate of 40-60 drops per minute. Acidosis or ketosis may complicate the picture. The administration of five per cent. dextrose or Hartmann's physiologic buffer salt solution, which is essentially a mixture of Ringer's solution and sodium lactate is most beneficial. Ten cc. of molar Hartmann's solution per kilogram body weight is diluted with five volumes of distilled water. One-third to one-half the amount may be given intravenously and the remainder subcutaneously.

Biotherapy has come to play an important part in the treatment of septicemia. In general all sera have more prophylactic than curative value. As a prophylactic measure the intramuscular injection of 20-40 cc. of whole blood from a parent and repeated in two or three days has merit. Inasmuch as many of the infections are streptococcal in nature, scarlet fever convalescent serum, when available, given early by the intramuscular or intravenous route in 40-100 cc. doses is perhaps even more beneficial.[5] The same may perhaps be said for polyvalent antistreptococcus serum. Other available sera are the anti-pneumococcus and the anti-influenza.

Prophylactic blood transfussions and, if possible, from donors who have recently recovered from streptococcal or pneumococcal infections in the respective types of cases, offer good therapeutic responses, when resorted to early. Kolmer[6] states that the benefit comes from the fresh hemoglobin, erythrocytes, leukocytes, agglutinins, antibodies, and non-specific leukins and plakins that are supplied to the patient. The same, of course, holds in the active treatment of septicemia. Blood transfusions are given in small volume—50 to 150 cc.—daily or on alternate days. The temperature reactions and the blood picture are guides as to the number required. Beside typing it is essential that direct blood matching be done before each transfusion is given to avoid subgroup reactions. In the later stages of the disease when cardiac reserve is impaired, the circulation should not be overloaded. Larger amounts of blood may be given slowly by the drip method. Immuni-transfussions of the specific or non-specific types have been advised.

Sulfanilamide has renewed interest in chemotherapy. It is most effective in hemolytic streptococcus infections. The drug must be given in adequate dosage and under laboratory control to prevent untoward results. We must be mindful of possible kidney damage, blood dyscrasia, and skin reactions that have been reported. Sulfanilamide is given by mouth when possible. One-half grain per pound body weight per day in six divided doses every four hours is the effective dose that can be given safely to most children. The upper limit is 40-60 grains for a 24-hour period. Sodium bicarbonate should be given grain for grain to prevent acidosis. Magnesium or other sulfates are not administered at the same time with the idea that the cyanosis which may develop is due to sulfhemoglobin. Fantus does not agree with this hypothesis. He states that the cyanosis may be due to a comparatively harmless blood pigment formed when the dye is ingested. The drug should be discontinued directly should any reaction become manifest. Sulfanilamide may be given intravenously or subcutaneously as a 0.5 per cent. solution in 5 per cent. dextrose in the calculated dosage when not tolerated by mouth. Oral administration can be resumed again after the gastric disturbance has subsided. As a check on the dosage, the sulfanilamide content of the blood may be determined. The optimum therapeutic effect is produced when the concentration is kept at 10 mg. per 100 cc. of blood. The drug should be continued until symptoms have subsided.

Stimulating drugs as caffeine, adrenalin, atropine, and strychnine are necessary at times to combat cardiorespiratory collapse. Oxygen and oxygen-carbon dioxide mixture aid when there is cyanosis.

For many years there has been active discus-

sion among pediatricians as to the management of severe nutritional disturbances in infants who have more or less ear disorders. Otitis media is one of the frequent parenteral infections which precedes or which may develop during the course of such a disturbance. Because of the lack of reaction on the part of the infant, the otological evidences of infection may be slight and entirely overlooked. The process may continue in spite of myringotomy and spread from the middle-ear to the mastoid and even to the meninges.

Some observers practice early antrotomy in these cases. Others are more conservative but at times lean too far in this direction. The following case, now under observation at the Cook County hospital on the infant service of Dr. Joseph Greengard, serves well to illustrate this point:

A five month old infant, weighing 14¾ pounds was admitted on March 23, 1938, because of a fever of 103 degrees, cough, and irritability of several days duration. Physical examination revealed slight injection of both ear drums with visible landmarks. Dulness and rales were found in the pulmonary bases. X-ray revealed increased hilar markings. A secondary anemia was present and a white blood count of 11,300. There were 52% polymorphs, 40% lymphocytes and 8% monocytes. During the next few days the left ear drum became dull and the markings obscured. Six days after admission the left drum was incised. A small amount of sanguino-purulent material drained. During the following week the discharge became profuse but there was no mastoid swelling or tenderness. The child took fluids and nourishment poorly.

April 4—120 cc. Hartmann's and dextrose solution was given intramuscularly by syringe.

April 6—300 cc. of the same solution was given subcutaneously.

April 8—400 cc. solution was given intraperitoneally.

On April 11, thirteen days after the paracentesis a slight fullness was noted over the left mastoid area. The child began to look toxic and was dehydrated. Severe diarrhea developed. Conservative management of the ear was decided upon.

April 12—300 cc. of solution was given intraperitoneally.

April 13—1000 cc. dextrose in saline was injected by intravenous drip into the right ankle vein. Citrated blood, 150 cc., was also allowed to drip into the vein. The stool culture revealed the Bacillus pyocyaneus.

Sulfanilamide, gr. iiss t.i.d. was begun on April 15.
April 16—300 cc. dextrose in saline subcutaneously.
April 17—300 cc. dextrose in saline subcutaneously.
April 18—400 cc. dextrose in saline intraperitoneally.

The child took a turn for the worse on April 18. He was weak and pale. The temperature dropped to a subnormal point. Nasal oxygen was administered. Caffeine sodiobenzoate, gr. ii, was given as a stimulant. The blood CO_2 combining power revealed a slight acidosis. Intravenous drip was started in the left ankle vein in the afternoon of April 18 and continued to April 20, 3200 cc. dextrose and saline and 150 cc. citrated blood being administered during this period. It was resumed the following day when 500 cc. dextrose and saline and 150 cc. citrated blood were injected into the left cubital vein. The following day the baby suffered episodes of collapse and had a severe diarrhea. On this day an antrotomy was performed by Dr. Curry under local anesthesia. Chronic granulation tissue was curetted from a large antral cavity. After the operation 1000 cc. of dextrose and saline and 125 cc. of citratetd blood were allowed to drip into a vein. Sulfanilamide was continued to May 1. The child began to improve immediately after the operation. A temporary remission occurred on May 5 due to a collection of pus which was removed from the surgical wound.

The treatment of otitic meningitis requires the surgical drainage of the focus of infection in the mastoid or lateral sinus. The same general measures discussed in combating the general infection are instituted. In addition purulent material has been drained from the subarachnoid space by spinal or at times cisternal punctures. The spinal fluid drainages were made daily or more often until a sterile fluid having a normal or almost normal pressure and cell count was obtained. Today, however, we are witnessing a most dramatic improvement in the treatment and prognosis of septic meningitis, particularly the streptococcus and pneumococcus types, with the advent of sulfanilamide and sulfanilamide derivative therapy. Many recoveries from these fearsome complications are now being reported. With this treatment the frequent spinal fluid drainages are often unnecessary. Spinal punctures are done once or twice a week and then once in ten days or two weeks for a check on the spinal fluid to determine how long therapy should be continued. The drug is administered for about ten days after the symptoms and physical findings have returned to normal and the spinal fluid has at least nearly approached a normal protein, sugar and cellular element level in order to avoid exacerbations.

The tendency is to get away from intraspinal injections of specific sera or drugs. Antisera for the pneumococcus, influenza baccillus, and streptococcus have been administered intraspinally with occasional recovery. There is, however, evidence that the intravenous injection of diluted serum has all the advantages without the local irritative effects intraspinal injection produces.

Continuous spinal drainage simultaneous with the intravenous administration of hypotonic (0.45%) sodium-chloride solution, which promotes rapid spinal fluid secretion, has been advised by Kubie and Retan.[7, 8] The treatment is kept up continuously or intermittently for several days. I have seen no beneficial results in my observations of this type of treatment.

Surgical drainage of the cisterna pontis lateralis was attempted in one case of otogenic pneumococcus meningitis I observed. Large doses of polyvalent antipneumococcus serum were administered intravenously as well. The outcome was unfavorable. Sulfanilamide was not used at that time.

The drug caffeine sodio-benzoate has been found effective in reducing intracranial pressure and so helps in the relief of headache. A spinal puncture may be required to relieve severe headache. Drugs useful in alleviating pain and restlessness are sodium amytal, chloral hydrate and avertin. Morphine has a tendency to increase the intracranial pressure and contract the pupils, so obscuring valuable observations.

For the treatment of convulsions the rectal administration of chloral hydrate in starch water is of benefit. The intravenous injection of 25 to 50 cc. of 25 to 50% dextrose or sucrose solution lessens cerebral edema. Two cc. of 25% magnesium sulfate injected intramuscularly every eight hours acts in the same manner. A spinal puncture, after the convulsion has ceased, may be necessary to prevent the recurdence of convulsive seizures.

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DISCUSSION

Dr. George Woodruff, Joliet: In his first paragraph Dr. Aries cautions us to be sure that the sepsis is truly otitic in origin and not due to some other cause. I think that this caution is important, because in a patient where the sepsis was due to some other disease, recognition of the true state of affairs might avoid a needless and, under the circumstances, a dangerous operation. There are cases, I believe, where the pediatrician and otologist can very materially aid one another in deciding whether the sepsis is or is not of otologic origin. Furthermore, it may at times be important to decide which of two ears is responsible for a septic condition. This, of course, may be a very difficult decision to make.

When we speak of otologic sepsis we think of several conditions, first, perhaps, of infective phlebitis and thrombophlebitis of the sigmoid sinus: second, of sepsis existing in some cases of acute mastoditis without phlebitis or thrombophlebitis of the sigmoid sinus: third, of that rather rare entity known as primary jugular bulb thrombosis, of especial importance in childhood. These various forms require some variation either in the amount or kind of surgery necessary, the decision properly resting with the otologic surgeon.

The question of jugular vein ligation could be argued for several hours, probably, without a definite decision being reached. I shall only say that I believe there are cases in which the majority of experienced men would feel satisfied only after they had performed a ligation.

Patients afflicted with any of these forms of sepsis need effective and judicious supportive treatment. These dangerously sick children, in my opinion, should have the services of someone especially trained in carrying out this treatment. At the same time, both he and the otologist should be on the lookout for complications in contiguous and distant locations.

The question of fluids and feeding should, where possible, be under the direction of a man who is expert along these lines.

Dr. Aries' remarks with reference to sera are of interest. The fact that they have much more prophylactic than curative value of course suggests their use in cases in which the development of otitis media and sepsis is feared. Convalescent serum, of course, has been used widely in scarlet fever. It would be of interest to know the incidence of otitis media in cases receiving the convalescent serum as compared to those who did not receive it.

Blood transfusions have been advocated in otologic sepsis. Some well-known authorities give them only when the blood count has fallen below a certain figure, and others advocate repeated transfusions for their effect on the sepsis itself, even though the secondary anemia is relatively slight. From my own rather limited experience with thrombophlebitis of the sigmoid sinus, it appears that if the secondary anemia is not too

great, satisfactory improvement usually results after appropriate surgery and plenty of fluids.

Sulfanilamide is of course being widely used, and appears to be of definite value in otitic sepsis, especially in that due to the streptococcus.

The question of severe nutritional disturbances in infants with more or less evidence of otitis media may be considered for a moment. The pendulum did swing very far toward radicalism in some localities a few years ago and, in general, has now swung back. However, there are cases of this nature that call for close cooperation between the pediatrician and the otologist, although I have seen none which required mastoidectomy primarily on the basis of a nutritional disturbance.

In the case that Dr. Aries relates, I believe it would be of interest to know the kind of bacteria found in the ear on smear and culture. Was the conclusion reached that this was a chronic otitis media? The statement is made that chronic granulation tissue was curetted from an enlarged antral cavity. I recently saw a child with a very severe sepsis, presumably of otitic origin, although the ear had healed early. In this case a recovery was obtained without surgery. Transfusions, sulfanilamide and good general care was the regime. In otitic meningitis, of course, the talk is all of sulfanilamide, and it appears to have definitely reduced the mortality. Efforts are now being made to evaluate the value of mastoid operation with wide dural exposure, drainage of the cisterna pontis lateralis, repeated spinal drainage and other measures. If enough cases are found that recovered on sulfanilamide alone, without surgery, it may relegate some of the time-honored procedures to a very minor place.

I think it is well that we be reminded that in infants and young children, purulent otitis media, uncomplicated, usually causes a much higher fever than it does in the adult: or, to state it another way, a fever which in an adult makes us apprehensive of an existing or impending complication, in the infant, may be only a usual manifestation of a suppurative otitis media. I would like to ask how the figures for the optimum concentration of sulfanilamide in the blood were computed.

I think most otologists need to hear a paper of this kind, particularly those of us who have not recently been hospital residents. Dr. Aries' paper, if studied and digested, will help us in the phases of this problem in which we are prone to be weak.

Dr. Philip Aries, Chicago (closing): I wish to thank Dr. Woodruff for discussing this paper. His remarks are very pertinent. I am sorry I cannot answer some of his questions, especially the logical question as to what organism was cultured in the case reported. Unfortunately in caring for sick infants in a large hospital, laboratory procedures are sometimes lacking as is true in this instance. The infant had an acute involvement of the middle ear and antrum.

The optimum concentration of sulfanilamide in the blood has been determined by a trial and error method. It is the amount that gives a favorable therapeutic response but within the limit which readily produces untoward reactions.

THE VALUE OF THE ROUTINE ELECTROCARDIOGRAM

JAMES B. BERARDI, M.S., M.D.
Veterans' Administration Facility,
DWIGHT, ILLINOIS

The electrocardiogram is an important adjunct in the diagnosis of cardiovascular diseases. There are many conditions involving the neuro and muscular conduction system of the heart, which are not elicited on physical examination or x-ray. These findings can be elicited by the electrocardiogram only. On the other hand there are certain cardiac conditions which are not elicited by the electrocardiogram, but which are definitely ascertained by a careful physical examination. This is essentially true in valvular heart disease.

The question often arises as to the unnecessary taking of routine examinations in cases in which the need is not apparent. This was manifested in an article in one of the lay journals recently, tending to show that all physicians who were consulted by this particular individual, recommended a Wassermann blood test. There is no question that the Wassermann is a very important routine laboratory procedure in all physical examinations. The same can be said for the importance of the electrocardiogram.

The value of the electrocardiogram can readily be understood when one knows that he obtains a definite working graph of the heart. The time has passed when patients suffering from cardiovascular diseases were put to bed, given digitalis and told to remain there indefinitely. In other words, they were made permanent invalids. When the exact nature of their condition is known, and the exact exertion to which the myocardium can be subjected, then a definite plan can be established for that individual to rehabilitate himself, so that he can carry on under the existing handicap. On the other hand, if electrocardiograms were not taken, these hidden pathological cardiac conditions would not be found and probably the patient would be doing work far beyond the endurance of his cardiac muscles, and as a result, would collapse and death follow much sooner than it would have occurred had the definite condition been determined, and his life planned accordingly.

The electrocardiogram is a characteristic tracing of the particular individual, with special

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reference to his cardiovascular muscular system at the time that the tracing is taken. In many cases the electrocardiogram can be used as a means of identification of that particular individual in the same manner that finger prints can be used for identification. It is true that the electrocardiogram varies from time to time, provided, however, there is definite change in the myocardium of that particular individual. Otherwise the tracing remains identically the same.

The electrocardiogram also reveals the progress of any particular abornmal condition which may be present, or the return to normal of that particular myocardium involved. This is an adjunct to physical examination which cannot be replaced by any other procedure known at the present time.

The reading of the electrocardiogram is a very important procedure. There are many who interpret the slightest changes in the tracings as pathological. There are others who require drastic changes in the electrocardiogram before a diagnosis of myocardial derangement is made.

Now in presenting these cases representing 1500 patients in which electrocardiograms were taken, we attempted to assume a middle course in the interpretation of these readings. These particular readings were later confirmed either by definite physical findings or postmortem examination. The three standard leads have been utilized in all cases with the addition of the fourth chest lead. In the first series the chest lead was taken so that all positive deflections were represented by negative ones on the graph, but the later series conform with the procedure lately adopted by the American Heart Association.

It is important before interpreting the electrocardiogram to know the position the patient was placed in at the time the electrocardiogram was taken, as some variations may occur, depending upon the position which the patient is in at the time the electrocardiogram is taken. In all of the cases electrocardiograms were taken in the recumbent position, and only after the patients had been allowed to rest on the table for at least five minutes. Other important factors are the taking of medication of some kind previous to the taking of the electrocardiogram. We know that certain drugs will alter the electrocardiogram so as to make a false impression. Digitalis, and its group, will alter the electrocardiogram. Quinidine, atropine, ephedrine, calcium and allied drugs of that nature will also alter the electrocardiogram. Acetyl Beta Meta Choline Chloride or Mecholyl is another drug which drastically affects electrocardiograms. This drug causes a prolongation of the P.R. interval, and as a result produces a slowing of the cardiac rhythm. Essentially it is important to know that all drugs which act on the sympathetic or parasympathetic nervous systems may affect the heart, and in turn produce changes in the electrocardiogram.

Certain vitamin deficiencies, especially deficiency of vitamin B-1, will produce changes in the electrocardiogram. Therefore, it is important to determine before hand any vitamin deficiency. The changes, however, produced by the lack of vitamins are not as marked as those produced by pathological changes in the neuromuscular conduction system of the heart.

The importance of the electrocardiogram has been realized by the large insurance companies; as a result in insuring individuals for large amounts, electrocardiograms are invariably taken. Not so long ago there was an insurance racket perpetuated against various insurance companies in producing electrocardiograms purporting to reveal severe myocardial damage, or other cardiac changes. These electrocardiograms were produced after the individual had been given large doses of the various drugs which do produce drastic electrocardiogram changes. This further illustrates the importance of knowing whether the patient has had any medication before electrocardiograms are taken.

These 1500 cases from which the data is obtained were not subjected to a routine electrocardiogram examination. The cases are divided into three groups: One group in which cardiac disease was evident on physical examination and from history elicited. Electrocardiograms were taken to determine the exact degree of damage present and further to confim the physical findings and history. The second group had no definite complaints referable to the cardiovascular system, but on physical examination there was some indication that there might be cardiovascular disease. Electrocardiograms taken in these cases revealed a certain percentage of electrocardiogram abnormality. The third group consisted of patients who complained of cardio vascular symptoms without any apparent phys-

ical findings. The electrocardiograms were taken in these cases to determine the cause for such complaints.

In the first group, electrocardiograms showed abnormal tracings indicating pathological changes of the heart muscle or neurogenic system in 90% of the cases. The second group presented abnormal electrocardiograms indicating such changes in 85% of the cases. The third group revealed electrocardiograms which presented abnormal findings in only 50% of the cases.

Numerically the groups were divided as follows: 600 cases in the first group revealed disease in 540 electrocardiograms. The second group consisting of a total of 700 cases revealed disease in 595 electrocardiograms. The last group consisted of a total of 200 cases, and revealed disease in 100 electrocardiograms.

To illustrate the value of the electrocardiogram I will mention ten cases, typical of certain groups, making up the total reviewed:

Case 1, the most striking example, is a case of auricular fibrillation with myocardial damage of a rather severe degree which has lasted for a period of 20 years. This patient has been followed up from time to time and his cardiac condition checked by frequent electrocardiograms. At the time the diagnosis was made, patient was given definite instructions as to his physical and mental limitations. He was also instructed in the proper use of a drug, which would control his heart if it became too rapid, or if he felt uncomfortable. This particular drug which he was instructed to take was quinidine. Now most cardiologists will admit that it is foolish to attempt to restore a normal cardiac rhythm in cases of auricular fibrillation. No attempt was made to restore the normal rhythm in this case, but quinidine was given from time to time when the heart began to show evidences of marked increase in the fibrillation. The patient was able to determine exactly when he needed this medication and as a result he has been able to prolong his life possibly 15 years, and surely at least ten years. As most cardiologists admit that the ordinary span of life following auricular fibrillation is at the average five years, and in exceptional cases ten years, and as mentioned this patient has already had this condition 20 years, at the present time he appears to be in rather good condition, in spite of this severe handicap. It is true that he is not able to carry on an occupation requiring severe exertion, but he is able to carry on very light clerical work and able to take care of himself from a financial standpoint.

Case 2 is that of an individual who complained of cardiac pain, dyspnea on slight exertion and cardiac irregularity. Physical examination revealed some arrhythmia, the exact nature of which was not known. On taking the electrocardiogram, it was found that he had frequent premature contractions with extra systoles. Now any disturbance in the normal rhythm, especially where you have a combination of premature contraction with extra systoles indicates definite derangement, either in the neurogenic system of the heart or the myocardium itself. He was instructed as to his physical limitations and also in the use of quinidine and strychnine. After the administration of approximately three grains of quinidine four times a day, and strychnine grain 1/30 four times a day, for a period of one week, the cardiac rhythm was returned to normal. This was checked frequently by electrocardiogram tracings. He would go on for periods of four or five weeks with an absolutely normal rhythm without taking any medication. Whenever he felt that the heart was beginning to beat irregularly, he would again take these two drugs in the doses as mentioned, with reestablishment of the normal rhythm. As a result, this individual has been able to carry on and do his normal work without any further cardiac damage or discomfort.

Case 3 is that of an individual about 38 years of age, who complained of dyspnea on exertion, of slight cough and of tiring easily. Physical examination was absolutely normal; there was no indication of disease. When the electrocardiogram was taken it revealed a definite intra-ventricular block, which indicated severe myocardial damage. This individual was instructed as to her physical limitations, and as a result is able to carry on her normal occupation.

Case 4, a man aged 45, complained of pain over the precordium, shortness of breath on exertion, occasional palpitation and a sensation as though the heart were going to stop. Careful physical examination in this case revealed slight obesity; otherwise physical condition was considered good. Extensive laboratory examinations, including x-ray of the heart, were taken without any apparent pathological changes found to explain the complaints. Electrocardiogram taken revealed definite coronary waves in the electrocardiogram. This illustrates again the value of the electrocardiogram. Without the electrocardiogram a diagnosis of coronary disease could not have been made in this particular case.

Case 5, an adult male, aged 48, rather obese, complained of severe gastric distress at times, with nausea and vomiting, and the vomitus usually contained bile. He had been to many clinics and a diagnosis of gall-bladder disease was made. He was operated on for gall-bladder disease, and gall-bladder removed, and even after the removal of the gall-bladder, the symptoms complained of still persisted. Physical examination of this case was essentially negative. There was no evidence of cardiovascular disease elicited. Electrocardiogram taken revealed, however, severe coronary disase with indication of an old cardiac infarct. This patient was instructed in his proper care as to his physical limitations, and he was given medication consisting of theocalcin, small doses of pheno-barbital and small dosses of iodides. These drugs, as we know, tend to promote increased circulation of the heart by causing some dilatation of the coronary circulation. While taking these drugs the patient was perfectly comfortable. The dosage was increased as indicated by the aggrava-

tion of his symptoms. We always must keep in mind the relationship of the gastrointestinal system to the heart; that is, they are both supplied by the parasympathetic nervous system, through the vagus nerve. Any disturbance of the heart may be referred to the gastrointestinal system and vice versa.

Case 6 is that of an individual 42 years of age, referred for treatment of acute abdominal condition. Complained of severe pain in the abdomen. There was marked rigidity of upper abdomen but the temperature was normal and the white blood count and differential were normal. Physical examination of the cardiovascular system revealed arteriosclerosis of a moderate degree, hypertension of a moderate to a severe degree. X-Ray of the heart was essentially negative. Electrocardiogram revealed coronary disease with cardiac infarct. A diagnosis of coronary thrombosis was made, patient was put to bed and given the indicated medication, and there was a general resolution of the thrombus with the establishment of collateral circulation and the individual felt well. Several months later he again had a similar attack, same procedure was utilized, but the patient died. Postmortem examination revealed coronary sclerosis and an old infarct of the anterior wall of the left ventricle, with a fresh thrombus in one of the coronary arteries at a higher site with extensive infarction.

Case 7 is that of an individual 48 years of age, referred for treatment of tachycardia. Complained of rapid heart beat, which occurred periodically during which time he felt short of bearth, easily fatigued, dizzy and would have severe pain over the heart. Also noticed pain in epigastrium and stated that the heart would beat fast if he became nervous or excited. Physical examination revealed an adult white male, fairly well developed, somewhat undernourished, was nervous and apprehensive. When examined his pulse was found to be of normal rate, blood pressure slightly elevated, he had a diastolic murmur over the apex, heart tones were of fair quality and intensity. Electrocardiogram taken revealed normal rhythm and myocardial damage of a moderate degree. The following day he complained of tachycardia, heart rate was found to be 240, blood pressure was elevated, patient was rather shaky, and nervous. Electrocardiogram taken revealed, in addition to the findings of the previous electrocardiogram, marked tachycardia. Heart rate was 240. Diagnosis of paroxysmal tachycardia was made. He was placed on quinidine grains three, four times a day. There was some re-establishment of the normal rhythm, but this was not of a permanent nature. He was not able to carry on his normal occupation because if he became nervous and excited the paroxysmal tachycardia would return. He was then given injections of mecholyl three to four times a month in conjunction with the quinidine therapy. With this medication the normal rhythm was maintained. He was thus able to return to his normal occupation which was rather light in character, but nevertheless he led a useful life and was able to rehabilitate himself and avoid cardiac invalidism, which probably would have occurred if the rhythm had not been re-established.

Case 8 is that of a white adult male, aged 52, admitted to hospital with a diagnosis of angina pectoris. Complained of severe substernal pain which radiated to left shoulder and down left arm. Pain would last for one hour at a time; he would become cold and have profuse perspiration during attacks. Heart would beat rapidly and he had marked dyspnea on exertion. Would become nervous, restless and apprehensive. Physical examination during an attack revealed dyspnea, tachycardia and profuse perspiration. Temperature was subnormal. Blood pressure was slightly below normal. Heart tones were weak and distant. No pericardial rub or murmur elicited. Blood count revealed a slight polymorphonuclear leukocytosis. X-ray of heart was within normal limits. Electrocardiogram revealed Pardee T-waves and low voltage of the QRS complex, and a diagnosis of coronary occlusion was made.

Case 9 was that of a white adult male, aged 48, admitted with a diagnosis of coronary disease and myocardial damage. Patient stated that he had heart trouble for three years and that he had been taking a green liquid medicine (tincture digitalis) five drops three times a day for the past three years. He complained of pain over heart lasting for hours at a time, dyspnea on exertion, epigastric distress, fullness in stomach after eating, pressure in upper abdomen and gaseous distention. These symptoms were more marked if he became nervous or excited. On detailed questioning he admitted that all his complaints began following an adverse business deal. Physical examination revealed a tall, thin, somewhat undernourished individual, who was nervous and apprehensive. Complete cardiovascular examination, including electrocardiogram, was negative for cardiovascular disease. G. I. Series was essentially negative, except for marked ptosis of the stomach. He was convinced that he had no cardiovascular disease. He was placed on a high caloric diet, given large doses of vitamin B-1 and advised to wear an abdominal belt. He gained forty pounds in weight in six months and was able to return to his normal occupation as stock broker.

Case 10 is that of a white adult male aged 40, admitted with a diagnosis of valvular heart disease and myocardial damage. History of heart trouble dating back to service in world war. Complained of shortness of breath on exertion, palpitation, dizziness on change of posture, occasional fainting spells, fatigue, weakness, precordial discomfort and aching over heart, Stated he had been taking tincture digitalis five drops two times a day for years. Physical examination revealed a small, thin, poorly nourished, nervous, emotional and irritable individual. He perspired freely during the examination and his feet and hands felt cold to touch. Respiration was rapid when discussing his condition, but they were within normal limits when his attention was diverted from his physical ailment. Observed during sleep respiration was normal. Heart was essentially within normal limits, except for moderate tachycardia. He was exercised and pulse rate increased to 160, blood pressure—systolic, elevated; diastolic elevated only slightly. Respiration increased. There was a diffuse cardiac impulse noted, and a soft systolic murmur was heard at apex. These apparent abnormal signs remained for fifteen minutes after the patient had been allowed to

rest. X-ray of heart and electrocardiogram were within normal limits. Diagnosis of neuro-circulatory asthenia was made. He was convinced that he had nothing seriously wrong with his heart. Digitalis was discontinued. He was advised to take graduated exercise, gradually increasing in degree, but at no time exceeding his endurance. His diet was high in caloric and vitamin value. He responded well to treatment and was able to return to his normal occupation.

DISCUSSION: I think I have illustrated a sufficient number of cases to point out the importance of the electrocardiogram. I have not gone into detail in giving the therapeutic and pharmacological action of the various drugs used, but we do know that certain drugs are more or less abused in their use. Digitalis is given in most cases in which cardiac disease is suspected. In many cases the doses are so small as to produce no therapeutic effect. In other cases digitalis is absolutely not indicated. Digitalis finds its use only in cases in which there is definite cardiac damage of such degree as to present definite symptoms of cardiac decompensation. Digitalis itself has no place in the well-compensated heart. It does have a great deal of value in the decompensated heart, or in cases in which decompensation is eminent or impending.

The electrocardiogram also has an important place in the differential diagnoses of the various heart conditions. It surely gives definite evidence of any disturbance in the normal cardiac rhythm. It also gives definite evidence of any damage to the heart muscle itself or to the neurogenic system supplying the heart.

Electrocardiograms in some cases reveal beginning myocardial derangement or disturbance of the heart conduction or vascular system long before the actual disturbance of the heart conduction or vascular system is elicited by any other method. It is important in the differential diagnosis between angina pectoris and coronary occlusion. It is true that there are some physical symptoms of differentiation in both of these conditions but the electrocardiogram may give definite evidence of differentiation. In cases of angina pectoris, in most cases the electrocardiogram is normal, whereas in cases of coronary occlusion it is often useful and very characteristic. As we know angina pectoris is more or less of a syndrome, which indicates spasms of the coronary arteries, whereas coronary occlusion indicates definite coronary disease with blocking of one of the coronary arteries. Depending on the extent of the involvement of the artery, and the area supplied, recovery can be based.

CONCLUSION: The electrocardiogram is of definite importance in the diagnosis of cardiovascular diseases. There is no other adjuuct known today which can take its place, especially in diagnosing conditions which are not apparent or manifested by physical examination or by x-ray of the heart. It is important to keep in mind at all times the position of the individual at the time the examination or electrocardiogram is taken, as variations in position may reveal some change in the electrocardiogram.

It is also important to know what medication the patient has been on before the electrocardiogram is taken, as many drugs will alter the electrocardiogram to such degree as to create a false impression as to the possible cardiovascular disease present.

This paper illustrates the importance of the routine electrocardiogram in cases in which there are no apparent symptoms either subjective or objective referable to the heart, as many cases reveal severe cardiac damage which is later confirmed by physical findings, which are late in their manifestation, or by autopsy. It is also important in determining the prognosis in certain cardiac diseases, as well as to rule out the diagnosis of non-existing disease of the myoneurogenic system of the heart.

FOOTNOTE: Presented with the permission of the Medical Director of the Veterans' Administration, who assumes no responsibility for the opinions expressed or the conclusions drawn by the author.

DISCUSSION

Dr. George Parker, Peoria: The electrocardiograph is now a well-established adjunct in the diagnosis of cardiovascular disease. Its chief value lies in its power to differentiate the various types of disturbed cardiac rhythm, to detect disease of the heart muscle or of its neurogenic system, and to diagnose coronary thrombosis.

Dr. Berardi's paper affords some very illuminating data on the percentage of cardiac or suspected cardiac patients in whom we may expect to obtain additional diagnostic information by the routine use of the electrocardiograph. He has shown that in a group of patients presenting both symptoms and physical findings of cardiac disease, the electrocardiograms were abnormal in 90%. In another group presenting no symptoms of cardiovascular disease but with physical findings suggestive of cardiac damage there were 85% abnormal electrocardiograms. I have been impressed by the number of patients presenting complaints referable to the gastrointestinal system but with few or no physical findings of cardiac disease who have abnormal

electrocardiograms and whose subsequent courses prove that in reality their symptoms are cardiac in origin. Insurance companies require an electrocardiogram of the 50-year-old applicant for life insurance if he has symptoms of indigestion. Dr. Berardi has shown that a group of patients with cardiovascular symptoms but without physical findings of heart disease had 50% abnormal electrocardiograms.

Combining all three groups of definite cardiac or suspected cardiac patients, he finds the electrocardiograms positive in about 80% of the cases. Any laboratory procedure which offers such a high percentage of additional diagnostic data is worthy of being included in the routine examination of patients of this type for the purpose of making more accurate diagnoses.

The percentage of abnormal electrocardiograms obtained in such a series of cases undoubtedly would vary considerably with another individual's group of cases. Dr. Berardi's high percentage might be interpreted as a compliment to his diagnostic ability or to his acuity in electrocardiographic interpretation.

Often negative electrocardiographic findings are as valuable or even more so than positive findings. Cardiac disease may be ruled out as well as in. For example, in cases where the diagnosis rests between a coronary thrombosis and an acute upper abdominal emergency, the electrocardiogram will throw the differentiating light upon the situation accordingly as the findings are positive or negative.

For those experienced in differentiating the various types of abnormal cardiac rhythm, the electrocardiogram may not be so essential; but for the novice or the one less experienced it provides accurate proof of the diagnosis of the disturbed rhythm.

Dr. Berardi's comprehensive study has shown the value of the routine electrocardiogram in cardiac or suspected cardiac patients.

Dr. N. S. Davis, III, Chicago: I have been very much interested in this paper. I think Dr. Berardi has shown the importance of the electrocardiogram as a diagnostic instrument. However, I feel that it is important to emphasize two or three things. We have many patients whose electrocardiograms show some pathological conditions but who have no symptoms or history pertaining to cardiac disease. Those patients should perhaps be informed that they have certain changes in the electrocardiogram but that unless they develop symptoms of some sort the fact that they have these changes is no more important than the presence of a murmur in the absence of other evidence of heart disease.

It is not always easy, in fact I hesitate ever to make a postive anatomical diagnosis of coronary disease or cardiac infarction from the electrocardiogram alone. Many times such a diagnosis is not justifiable because the history, the physical examination and often the postmortem indicate the lesion diagnosed is not present. We should not do more than say that the curves are consistent with a diagnosis of certain kinds of diseased conditions. We cannot make a positive diagnosis except of arhythmias from the electrocardiogram alone.

You must remember that the patient must have symptoms as well as some abnormal findings before treatment is necessary. The man who makes the electrocardiogram cannot make a certain diagnosis and should not advise treatment unless he has also examined the patient.

James B. Berardi, closing discussion:

In reference to remarks made by Dr. George Parker concerning the variations of abnormal electrocardiograms in different individual groups, I wish to state that the group I presented represents adults all over 37 years of age, and that the oldest of the group was 94 years. These patients were referred to the hospital by their private physicians because of suspected pathology or the patient presented himself because of certain manifestations of poor health.

In answer to Dr. H. S. Davis, I desire to state that in the group I have presented, I have not only read the electrocardiograms, but examined the patients as well. It is true that the man who has read the electrocardiograms alone can not make a definite diagnosis, but when the physician who has examined the patient is himself familiar with the abnormalities of electrocardiography, he can properly confirm the history and physical findings or question them.

It is not always advisable to wait for symptoms to present themselves before treatment is instituted, because if the delay is too long serious irreparable damage may be caused to the cardio vascular system.

ETIOLOGIC AND THERAPEUTIC FACTORS INVOLVED IN CHRONIC BLEPHAROCONJUNCTIVITIS

N. K. LAZAR, M. D.

CHICAGO

Everyone is well acquainted with the problem which I am to present at this meeting, yet I believe that in everyday practice it is one of the least solved problems. With this in mind, it occurred to me that fungi may have something to do with this condition because we all know that zinc in almost any form inhibits the growth of fungi. Accordingly, I investigated a number of cases from this angle and am sorry to report that the findings were negative. I will say more about this later.

Before proceeding any further I think it is well to define the condition I want to discuss. All of us have seen patients with complaints of asthenopia together with marginal involvement; some scaling, some redness at the lid margins. Some have used glasses without any apparent relief. Others have no asthenopia; no refractive

From the Department of Ophthalmology of Cook County Hospital and Northwestern University Eye Clinic.

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error, but redness of the lid borders with marked discomfort for near. In some the scaling approaches the ulcerative type with loss of hair follicles. In nearly all cases smears are negative for organisms. This is the type of blepharoconjunctivitis with which my paper *deals*. There are a number of cases of chronic conjunctivitis which are also included in this survey.

The literature on this subject is so voluminous that no attempt will be made to quote it completely. Here and there a few pertinent remarks will suffice to show how involved this problem is. From an etiologic standpoint Axenfeld[1], Collins and Mayou[2] and others[3] have found the gram-negative diplobacillus of Morax-Axenfeld to be responsible for this condition. McKee[4] has shown that the normal conjunctiva harbors many pathogenic organisms and many of these may become activated and produce the type of blepharoconjunctivitis or chronic conjunctivitis with which this paper is concerned. Hansell[5], Taub[6] and Lehrfeld[7] report cases of chronic conjunctivitis and blepharoconjunctivitis which are due to some specific allergy. Taub reports a case in which silk caused a moderate blepharoconjunctivitis, and when the patient was desensitized to it the conjunctivitis disappeared. Hollander and Baer have pointed out the importance of a careful allergic history.

It is quite common to see cases of blepharoconjunctivitis caused by dandruff. Von Studdleford[8] reported several cases as due to seborrhea. In discussing this paper Kile stated that he believes that he has discovered the organism which is responsible for seborrheic blepharoconjunctivitis. He named it the pityrosporum ovalis. This has not been confirmed.

Muende[9] reports a case of generalized trychophytide with complicating blepharoconjunctivitis and believes this to be an allergic manifestation.

Several French authors report cases of chronic blepharoconjunctivitis as being due to mycelian concretions of the lacrimal ducts. More recently Thygeson[10] and O'Brien and Allen have shown that many of these cases may be due to staphylococus hemolyticus. The chronicity and the recurrence of the condition in certain individuals, together with positive cultures seems quite conclusive. Mariconi[11] has shown that when two or three drops of a staphylococcus filtrate are dropped into the conjunctival sac of cases with staphylococcus infection the conjunctiva becomes hyperemic and remains so for several days. One should mention the blepharoconjunctivitis due to overmedication. The best proof of the cause, of course, is the rapid disappearance of the disease when the noxious drug is removed. An excellent classification of chronic blepharoconjunctivitis was given by Gradle[12] in 1930.

The literature on treatment of this condition is as numerous as the number of cases reported. Gradle[12] has pointed out the importance of long persistent treatment. He believes that ung. novoform in 1% or 2% seems to give excellent results. Gifford[13] has pointed out the importance of evacuating the meibomian glands. A. Peters[14] believes that no medicament has a specific action on the disease. Ronne points out the importance of removing all scales before rubbing in the ointment. He doesn't believe it makes a great deal of difference what ointment you use. There is a difference of opinion however and Gifford has shown this to be true in many cases.

Medvedeff and Euffa[15] use a 1% solution of brilliant green in 50% alcohol—painted on the margins of the lids. They report fair results in fifteen cases. Many cases required four and five applications. The author has seen several patients treated with brilliant green, both at the County Hospital and at the Northwestern University Eye Clinic with little or no benefit. Tulipan[16] reports good results with brilliant green in cases of chronic blepharoconjunctivitis due to sycosis vulgaris. Gifford has shown that many of these patients are helped by x-Ray therapy, giving ⅛ to ⅕ of an erythema dose for three doses or more ten days apart. Clark[17], in his excellent paper, has shown that persistent and methodical treatment is necessary in achieving a satisfactory result.

All cases herein reported were subjected to a rigid and complete ophthalmologic examination. Homatropine refraction was done in all cases, muscle balance tests before and after refraction, and all cases of chronic conjunctivitis and mild cases of blepharoconjunctivitis in which refractive error or muscle imbalance was thought to be part of or influencing the complaint are not included in this series. Although it is true that a large percentage of the patients were wearing glasses, these had no bearing on the etiologic or therapeutic factors involved.

Conjunctival scrapings were prepared and a

gram and giemsa stain made in all cases (see Chart 1). Conjunctival scrapings, in most of the cases, with a gram or giemsa stain were either negative or the staphylococcus albus or aureus was found. All cases were cultured for fungi; the media employed was that recommended by Fisher and Arnold[18]. Several such media were considered, but this media was selected for it produces a minimum growth of bacteria. These cultures were examined after twenty-four, forty-eight and seventy-two hours with no growth observed in any case.

An agar slant and broth culture was made in all cases. Of the forty-eight cases herein reported only seven showed positive growth and these showed pure cultures of staphylococcus aureus or albus. In about half of the forty-eight cases cultures on blood agar were made and in none of these was staphylococcus hemolyticus found. Of the seven positive cultures, four were re-examined and another culture on agar and broth made. These showed the same organism as the first culture. The negative culture findings in such a large number of cases may

TABLE I

Date	Case No.	Type	Gram	Giemsa	Fungi	Broth and Agar Culture	Treatment
6/11/36	1	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
6/18/36	2	Bleph-Conj.	No org.	No org.	No growth	Pure Staph. Aureus	Routine
6/25/36	3	Chronic Conj.	Mixed	Mixed	No growth	Pure Staph. Aureus	Vaccine*
7/16/36	4	Chronic Conj.	No org.	No org.	No growth	Neg.	Routine
7/30/36	5	Chronic Conj.	No org.	No org.	No growth	Neg.	Routine
8/ 7/36	6	Bleph	No org.	No org.	No growth	Staph. Aur.	Vaccine
8/13/36	7	Bleph-Conj.	No org.	No org.	No growth	Staph. Albus	Routine
9/13/36	8	Bleph-Conj.	Mixed	Mixed	No growth	No growth	Routine
9/10/36	9	Bleph-Conj.	No org.	No org.	No growth	Staph. Albus	Routine
9/24/36	10	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
10/ 2/36	11	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
10/ 7/36	12	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
10/22/36	13	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
10/ 7/36	14	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine and X-Rray*
10/22/36	15	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
12/24/36	16	Bleck-Conj.	No org.	No org.	No growth	No growth	Routine
12/28/36	17	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
1/16/37	18	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
1/27/37	19	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
5/ 2/37	20	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
12/ 4/37	21	Bleph-Conj.	No org.	No org.	No growth	Staph. Aur.	Vaccine and X-Ray*
2/21/35	22	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
5/13/37	23	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
7/ 1/36	24	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine (Dandruff)
7/ 3/37	25	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
8/16/37	26	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
8/26/35	27	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine (Hay Fever)
10/14/37	28	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
4/13/32	29	Chronic Conj.	No org.	No org.	No growth	No growth	Routine
6/10/33	30	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
3/ 5/34	31	Chronic Conj.	No org.	No org.	No growth	No growth	Routine
7/30/35	32	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
1/14/35	33	Chronic Conj.	No org.	No org.	No growth	No growth	Routine
6/21/35	34	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
7/18/36	35	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine and X-Ray
4/ 6/36	36	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
4/28/36	37	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
9/23/36	38	Bleph-Conj.	No org.	No org.	No growth	Staph. Aur.	Routine
1/27/37	39	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine and X-Ray and Vaccine
9/27/37	40	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine and X-Ray
2/16/37	41	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine and X-Ray
7/ 2/37	42	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
4/ 3/37	43	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
9/29/37	44	Chronic Conj.	No org.	No org.	No growth	No growth	Routine
8/19/37	45	Chronic Conj.	No org.	No org.	No growth	No growth	Routine
5/20/37	46	Bleph-Conj.	Morax-Ax.	Same	No growth	Not done	Zinc
1/ 2/37	47	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine
2/18/38	48	Bleph-Conj.	No org.	No org.	No growth	No growth	Routine—Cleared

have been due to the use of the plain broth or agar. An autogenous vaccine was made in two cases and vaccine was given in graded doses over a shorter or longer period. In all of these cases medication was either discontinued or the patient had no treatment of the eyes for a week or better prior to injection of the vaccine.

The treatment in all cases was somewhat standardized. Cases 25, 26, and 46 were treated according to the etiology. Case 46 cleared up completely after ten days of treatment with 2% zinc sulphate solution, one drop into the conjunctival sac washed out with a solution of 1/5% zinc sulphate every other day. For home use 1/4 per cent. zinc sulphate solution three times daily was prescribed followed by heat—wet or dry—for ten minutes each time. The patient was asked to use a 1/4% zinc ointment in lanolin before retiring. The blepharoconjunctivitis disappeared in about ten days. Cases 25 and 26 were given Suker's eye-wash to be used twice daily, together with novoform ointment 1% to be used before retiring. Once a day the lid margins were gently scrubbed with a pledget of cotton dipped in boric solution to remove the flakes. The patient was then referred to a dermatologist for treatment of the underlying seborrhea.

For the remaining cases the routine treatment was as follows: After smears and cultures were found to be negative in cases of blepharoconjunctivitis 2% solution of butyn was used for anesthesia. A toothpick applicator dipped in 1/2% silver nitrate was then gently rubbed into the lash border so as to loosen the scales and at the same time to apply the antiseptic. The meibomian glands were then squeezed out and secretions wiped away. Ung. novoform 1 or 2% was then rubbed into the lid margins and the excess wiped away. This was followed by a drop of adrenalin 1:1000 in each eye and a cold towel applied for about five minutes. This procedure in the office was repeated about once a week. For home use a solution of 1/5% zinc sulphate, one drop three times a day, was dropped into each eye to be followed by hot towels for from five to ten minutes about twice a day. Ung. novoform 1% was put into the conjunctival sac before retiring. After two weeks of the above treatments, if no marked improvement was shown, some of the cases were given small doses of x-ray to the eye—1/5 to 1/4 erythema dose to each eye once every ten days for four times, the eyes being protected by a mercury shield. Of the forty-eight cases, six were given this treatment with marked benefit after the third dose. Case 39 had all the routine treatment over a period of four weeks, with a change in antiseptic twice, together with four x-ray treatments, with only some improvement. Culture taken again after six weeks from onset showed a staphylococcus aureus in pure culture. An autogenous vaccine was made and graded doses, starting with 1/10 c.c. of 5,000,000 to 5 c.c. were given once a week. This patient cleared up completely after five weeks of injection. There has been no recurrence of the blepharoconjunctivitis for at least six months. The remaining five patients with positive cultures, showed some degree of improvement after injections of an autogenous vaccine, but not sufficient to clear the lids of the disease.

However, the remaining five patients with blepharoconjunctivitis that received x-ray treatment all improved so that they did not require any more treatment.

The remaining patients in whom routine treatment of removing scales, squeezing out the contents of the meibomian glands through the lid margin, applying an antiseptic and using an ointment once or twice daily to the lids, did not show a tremendous amount of improvement. True they were helped considerably, so that from a cosmetic standpoint they had improved, but as soon as the treatment was discontinued the condition recurred. It was never, however, as bad as when they first presented themselves.

TABLE 2

Number of cases	48
Number with known etiology	5
1 Morax-Axenfeld bacilli	
2 Hay fever	
2 Seborrhea	
Number of positive cultures	7
5 Staphylococcus aureus	
2 Staphylococcus albus	

TABLE 3

Number of cases treated	48
Number responding to x-ray	6
Number responding to vaccine	2
Number responding to specific etiology (1 morax; 2 dandruff)	3
Number helped	37
Number cured	11

Cases of chronic conjunctivitis seemed to respond less to any type of treatment than the cases of blepharoconjunctivitis. Of the eight

cases herein reported, three seemed to improve after the removal of calcioliths from the conjunctiva. In these cases, one per cent. and sometimes 2% silver nitrate was used with some relief of the symptoms. One of these cases had a pure culture of staphylococcus aureus. This patient was given autogenous vaccine without a great deal of benefit.

COMMENT

1. Report of a bacteriological survey of forty-eight cases of chronic blepharoconjunctivitis is made.

2. The great preponderance of cases show no organism on scraping or culture.

3. Persistent treatment is necessary and no specific treatment was employed.

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DISCUSSION

Dr. Elias Selinger, Chicago: Any attempt to deal with the problem of chronic blepharoconjunctivitis from a scientific standpoint deserves to be commended. The consideration of the role of fungi in the etiology of blepharoconjunctivitis is very interesting and at the same time is beset by many difficulties. Fungi have extremely varied morphological, biochemical and immunological characteristics. Because of the great complexity of the organisms there is as yet no uniformity in the classification of fungi. Some authorities consider molds (eumycetes) and yeasts as a separate group from true fungi, while others again place actinomyces and related organisms such as the tubercle bacillus into a special group of actinomycetaceae: still others group all these together under the general head of fungi. In this discussion molds, yeasts and some of the actinomycetacea will be considered under the general term of fungi.

Fungi are extremely numerous and widely distributed in nature. They are found on damp walls and floors, on and in the soil, on plants and minerals, in the water and in the air. The spores of molds are usually more abundant in the air than bacteria. In laboratories culture media are readily contaminated by molds; preserved fruit, vegetables and other products often become contaminated by them. Fungi play an important role in the production of sake, beer and other alcoholic liquors as well as in the baking of bread. Many are parasitic upon higher plants. Phytophthora infestans causes potato rot, while another fungus, claviceps purpurea, by infecting rye and other grains, causes ergotism if the infected grain is eaten. A relatively smaller number of fungi are pathogenic to higher animals, including man. Plaut has divided the fungi pathogenic to man into three groups: (1) molds in the narrower sense, such as mucor mucedo and aspergillus; (2) fungus of thrush; (3) fungi infecting the skin. This last group is very large. Aspergillus infections are quite common. Most of the reported lung infections have been found among bird fanciers, especially those dealing with pigeons. Monilia ablicans produces thrush, while another member of the monilia group, m. psilosis, is found in sprue. Both these, as well as the achorion schoenlinii which cause favus (a contagious disease of the scalp) and trichophyton (which causes ringworm) have been found on the lids and in the conjunctiva.

Fazakas, in a recent article, reported the isolation of forty-two varieties of fungi from the eye. Among 1335 diseased eyes examined he found 495, or 37% were positive, while among 456 healthy eyes 117, or 25% were positive for fungi. In three cases of mycosis of the lid margins fungi were found. Of 57 positive cases in blepharitis there were 22 penicillium, 9 torula, 4 alternaria, 3 crytococcus, and 3 schizonaccharomyces hominis of Benedek. Among 27 positive cases of blepharoconjunctivitis, pencillium was found nine times, torula four times, and Benedek's schizosaccharomyces hominis four times. Fungi were found in 41 cases of acute, 48 cases of subacute, and 18 cases of chronic catarrhal conjunctivitis; fungi were also cultivated from 50 trachoma cases. Cultures were also positive in follicular, angular, vernal, eczematous, inclusion, croupous and gonorrheal conjunctivitis. Chalazion, hordeolum, meibomitis and infection of the tear passages were other sources of positive cultures.

Duke-Elder in his textbook mentions leptothrix, rhinosporidium, blastomyces (monilia), sporothrix and other fungi isolated from the conjunctiva in cases of conjunctivitis caused by fungus infection.

Of course, the mere presence of these organisms on the lid or in the conjunctiva does not signify that they are pathogenic. Nor does the absence of fungi in cultures necessarily indicate that they are not present in or on the tissues. Their cultivation in artificial media may be a very complex process and may require the assistance of a trained mycologist who can devote a great deal of time to this study.

So far as treatment of fungus infections is concerned the problem is by no means a simple one. Some fungi can be killed very easily by various fungicides in the test tube, while on the tissues they are very resistant. Thus, some infections can be cleared up by the application of zinc sulphate, tannic acid, silver nitrate and other chemicals, while a streptothrix infection of the canaliculus, for instance, requires removal of the con-

cretions by curettage. Leptothrix infection may respond to surgical removal of the involved necrotic areas while blastomycosis may be beneficially influenced by iodides internally. X-ray has a beneficial effect on some fungus infections. In some cases the fungus, although not responsible for the infection, complicates the clinical picture by producing a tissue reaction or local sensitivity to the presence of allergens from the fungus growth. In these cases the manifestations of the reaction to these allergens must be cleared up before the underlying true cause of the disease can be successfully treated.

Dr. N. K. Lazar, Chicago (closing): One really ought not to show such a small series of cases. You would need a large number before you could say you had positive cures. I think one reason we got negative cultures for fungi was because, as Dr. Salinger mentioned, a lot of people came in with a tremendous amount of treatment over a long period of time, and how long one can let an eyelid go before culture, and get a positive culture, I do not know. It is very hard to get a medium that is acceptable from every standpoint. It is nearly impossible to get a culture medium that is so ideal that you can exclude all other organisms and at the same time obtain a good fungus culture.

VENEREAL DISEASE CONTROL

G. G. Taylor, M. D.

CHICAGO

Venereal disease control, in Illinois, dates officially from the promulgation of Rules and Regulations by the State Department of Public Health in 1917.

Examination of men drafted for military duty had shown the great prevalence of venereal diseases and their end results. The government took notice. Congress appropriated three million dollars for distribution among the states, according to population. The states put up an equal amount. A campaign including educational, repressive, and treatment measures was inaugurated, and an aggressive fight was carried on for a few years.

The war being over, people complained of taxes; congress failed to re-appropriate; gradually state legislatures lost interest; educational work ceased, and only a few clinics remained. The public, which had learned to hear the words syphilis and gonorrhea without a shudder, soon recovered its embarrassment at the mention of them. Less than five years ago a Chicago physician, after listening to a paper on the treatment of gonorrhea and some discussion which followed, arose and said, "Enough of this, let's discuss something decent."

Meanwhile, syphilis and gonorrhea, chancroid and in later years granuloma venereum were steadily taking their toll.

Gonorrhea was responsible for innumerable surgical operations on females, and Chicago alone was sending several hundred syphilis patients to state hospitals for the insane every year. The care of these insane patients cost the state more than the annual venereal disease control budget, to say nothing of human suffering of patients and the misery of their dependents.

Surgeon General Thomas Parran was installed as head of the U. S. Public Health Service after many years spent in practical public health work throughout the country. As a result of this experience, he had come to realize, and so boldly announced to the public that venereal diseases and particularly syphilis constituted the most outstanding public health problem of the day.

After two years of remarkable publicity, in which practically every newspaper and magazine in the country has had a part, the public is well informed concerning syphilis and is demanding that it be controlled.

The Chicago Syphilis Survey, conducted during the spring of 1937, by the U. S. Public Health Service, in cooperation with the State Department of Public Health, the Chicago Board of Health, the Illinois State and Chicago Medical Societies, has been productive of much useful information and food for thought. Without lengthy detail, certain findings are of interest.

Of 19,000 cases under treatment during the survey period, it was learned that diagnoses were made and treatment begun in the following stages:

Latent 54%; early (under two years) 15%; tabes 6%; late prenatal 6%; cardiovascular 5%; asymptomatic-neuro 3%; paresis 3%; other neurosyphilis 3%; benign late 3%; early prenatal 1%; other late cases 1%.

The foregoing is not necessarily an indictment of our diagnostic ability or lack of it, but it should certainly awaken us to a realization of the terrible cost of carelessness, indifference, inertia, ignorance or what not. We have failed to diagnose our cases until 85% of them had passed the stage in which a cure is possible.

The birth rate has been falling, syphilitic

Read before Section on Public Health and Hygiene of Illinois State Medical Society, May 18, 1938, Springfield.

mothers have had many miscarriages, and have borne many syphilitic babies.

The detection of syphilis in the very early stages is of great importance in that the possibility of cure is much greater if treatment is begun then, than when the disease has progressed to the latent or late stage before treatment has been instituted.

From a public health point of view, it is equally important that the patient under treatment receive the minimum amount of therapy recommended by the Cooperative Clinical Group, viz., twenty injections of an arsenical and twenty injections of a heavy metal, if infectious relapse is to be avoided.

The survey showed that whereas 23% of patients under treatment by private physicians continued a sufficient length of time to receive the required minimum therapy, the clinics succeeded in holding 52%. The natural inference is that clinics make better use of the Board of Health machinery for returning lapsed patients to treatment agencies, than do physicians.

The cooperation of private physicians is essential to the success of venereal disease control. This was recognized in the very beginning, and the desire to make venereal disease control beneficial to the physician is responsible for Rule 4, which permits the physician to report the patient under a key number, without revealing his identity. If Rules 3 and 4 are explained to the patient in the beginning when he should be made to understand the nature of his disease, and the necessity for prolonged treatment, his compliance will be more easily secured.

He should be made to understand that if he assists in locating the source of infection, or in bringing such source and other exposed persons in for examination, and continues under treatment until no longer a menace to others, then the health officers have no concern as to his identity. The examination of such persons often results in other patients for the reporting physician.

The wise physician continues to instruct and educate his patient as treatment progresses. Also, he explains to the patient that a negative blood result in the first year is no indication for a cessation of treatment. No rest period should be given during the first year of treatment, because a rest period lessens the possibility of ultimate cure, and since he feels better without treatment, creates in the patient a feeling that he has had enough medication.

Failure to properly educate the patient is undoubtedly the reason the average patient received only 12 injections of an arsenical with an equal number of a heavy metal during the first two years of treatment and observation.

It has been suggested that the physician who is interested in the treatment of venereal diseases will consider the patient's ability to pay and regulate his fee accordingly. He will consider the practicability of designating certain hours, preferably in the evening, for operating his own clinic.

Patients unable to pay his regular treatment charge will gladly avail themselves of an opportunity to go to Dr. Doe's private clinic, where he has the personal attention of the doctor or his assistant instead of the public clinic with its crowd of patients. With free drugs, free laboratory and follow-up service it becomes possible to treat patients at a nominal charge and still make such hours very profitable. In this manner the wise physician retains his patient's good will, provides the best treatment and permits the patient to retain his self-respect.

The government survey has shown that ten per cent of pregnancies among syphilitic women result in still births, as compared with two per cent of pregnancies among non-syphilitic women. Routine blood tests must be made on pregnant women if prenatal syphilis is to be prevented.

The Saltiel amendment to the marriage license law, which became effective July 1, 1937, has already demonstrated its worth in venereal disease control. It is not claimed that the law is perfect and Representative Saltiel has invited suggestions from physicians for improving and strengthening it.

Health departments may well be proud of their accomplishments in the control of other communicable diseases. Prevention of the spread of communicable disease is their most important function.

Venereal disease control has come to stay. We willingly report small-pox and scarlet-fever—why not syphilis?

Reporting venereal disease pays in dollars and cents. Shall we do it willingly or shall we wait for the law to show its teeth?

518 Deming Place.

DISCUSSION

Dr. John J. McShane, Springfield. I wish to congratulate the speakers who have presented papers on venereal disease control. In discussing Dr. Taylor's paper, I wish to state that Chicago's problems are very much like those down state and one of our biggest problems is in getting the early cases under treatment, for statistics have shown that fifty per cent. of the cases are not seen by a doctor until a year has elapsed from date of initial lesion. It behooves the medical authorities and others to educate the public so that any person with a suspicious lesion will contact a physician for proper treatment instead of going to a druggist for ointment.

At the present time the department is standardizing laboratories throughout the state and we are finding some very interesting results. So that the results from all laboratories will be comparable, those laboratories approved will be furnished with standard antigen.

I have three or four slides that I would like to present showing the age groups, number of cases by counties, etc.

It is the intention of this department to check all cases of syphilis down state the same as we do smallpox, infantile paralysis, etc., so that we may learn, if possible, the source of infection and also those who may have been exposed and in this way place them under the care of their family physician for early treatment.

THE SYPHILIS CONTROL PROGRAM OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH

NOXON TOOMEY, M.D.

SPRINGFIELD, ILL.

Five years ago considerable restriction of our syphilis program became necessary. Eighteen months ago, retrenchments became not quite so necessary because of partial assistance by means of Social Security funds administered through the United States Public Health Service. Accordingly, an opportune return to a fuller syphilis control program was wisely planned in October 1936 by Doctors Frank J. Jirka, A. C. Baxter and John J. McShane for the State, and Doctors Parran, Vonderlehr and Wenger of the United States Public Health Service. Soon thereafter, we received assurance that our enlarged syphilis program would be cordially supported by the Council of your Society; a joint contact committee soon being organized.

Late in 1936, syphilis control measures were reviewed, revived and reorganized according to their interrelationships, and their relative merits in a complete program. Though the program was not ranged into yearly stages, it was not supposed that all activities could be commenced at once. One of the first requirements was for enlargement of the Central Control Office, and of the Field Force *pari passu*. Now, after some nine to ten months of effective organization of thrice enlarged forces, both in the field and in the Control Office, we are ready to make more analytic surveys of local problems, and to bear directly upon local situations when invited to do so by the local medical profession. Or, as may become necessary for us to do so if community leadership in matters medical is allowed to pass from the County Medical Society. However, our program is based squarely upon the principle of assisting doctors, and of working through the medical profession.

As yet, we can report almost only on our increasing assistance to private doctors; and on our increasing dissemination of information to the lay public. *Nothing has been done by us in the way of inaugurating free clinics.* We are, however, partially assisting 33 free clinics from which we receive monthly reports. The inauguration of not one of them was however, sponsored by us, much less enforced by the State. Whereas new clinics will add to our burden of assistance and supervision, we anticipate that more communities will take it upon themselves to open venereal clinics. Without such, or a *comparable means* for reaching indigent and near indigent syphilitics, it will be utterly impossible for us to more than gloss the surface of control. Such has been the history of syphilis control in all countries in all ages.

Whatever may be the ultimate character and scope of services sponsored and organized by municipal or private groups in Illinois, we may be depended upon to continue—possibly increase—our free assistance to private doctors. Our present assistance consists of unlimited free laboratory tests on blood, spinal fluid, and chancre exudate; of free drugs for reported cases; and a contacting of lapsed cases whenever and wheresoever reasonably possible. Free laboratory service is not restricted to only doctors who report cases to us. We hope that more doctors will avail themselves of our free tests for syphilis; and, that those who are now doing so routinely on certain types of cases, especially on cases of pregnancy. To assist furtherance

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of more tests for syphilis, our Division of Laboratories has enlarged its staff and has opened a new Branch Laboratory in Galesburg. Also, to improve the reliability of tests being made in private laboratories, our Acting Director has authorized a survey to be made of private laboratories which request our assistance towards a standardization of their syphilis tests. To maintain uniformity, we will supply free our standardized antigen to those private laboratories which cooperate with us.

Our free anti-syphilitic drugs have come to be depended upon by nearly 40% of downstate doctors (some 2000), and approximately as many in Chicago. We are disappointed that not more doctors avail themselves of free anti-syphilitic drugs; but we will not commit administrative errors, nor technical mistakes, just to get drugs into the hands of doctors who fail to cooperate. Therefore, we must continue to insist upon cases being first properly reported to us before drug can be supplied; and, we will have to continue to insist upon continuance of treatment being certified to monthly before drug can be sent. Neither of our *only two* requirements are the least difficult to comply with, if records are kept as they should be kept, and replies to our letters are attended to promptly.

Our policy, "Report the case, receive free drug" need not be conditioned for any case because we supply free drugs without regard to stage of case (length of duration of disease) or financial status of patient. The latter principle is quite necessary because the little distributed for cases in wealthy syphilitics is comparatively insignificant and is their due as taxpayers; whereas, the few dollars worth is vastly overshadowed by the large proportion distributed for persons who would be kept from needed treatment by either the imputation of charity or the having to pay for the drug. Therefore, it is a necessary medical measure for us to provide drugs free for any properly reported case without respect to financial status.

The policy of supplying free drugs for all stages of syphilis is desirable but not essential. Yet, we will continue to supply free drugs for use in non-infective cases even if such cases are not likely to ever become a concern of public health preventive medicine. We, as public health officers, are really only concerned in preventing the spread of syphilis; and not in curing late non-infectious syphilis. Therefore, we wish to see less dissipation of funds that should be conserved for defraying the cost of treating infective cases and young victims of syphilis.

Control by treatment presupposes *uninterrupted* medication until infectivity becomes unlikely—a matter of many months. Most young adults lapse treatment after five or six weeks, and many seemingly sincere mature persons by the eighth or ninth week. That is why we must require monthly reports concerning continuance of treatment. It would be illogical for us to supply lengthy courses of drug; or to await reports that probably never would be made except in the small proportion of cases that continue into the fourth consecutive month of treatment.

Besides being arranged as a convenient service to doctors, our monthly drug letters provide an expeditious means for doctors to inform us of infective (and potentially infective) persons who lapse from control. When we are *sufficiently informed* of infective lapses, we certainly do endeavor to effect returns to treatment.

However perfect might be our control of lapsed infectives, such alone would not control spread because unrecognized cases must be found and gotten under treatment. Therefore, we must be informed concerning all contacts, whether sources, victims, or possible victims. It is with respect to case finding that we can and will extend the scope of our service. But, we will not be able to do so sufficiently unless doctors report better. A little over sixty per cent. of doctors endeavor to comply with the law that requires reporting of communicable diseases. However, nearly half of reporting doctors do not report sufficiently fully to do credit to a learned profession.

Case reports, as we are now receiving them, range from 5% very good to 25% not good; with the intermediate portion averaging considerably less than satisfactory.

To improve reporting—both as to quantity and as to quality—is prominently on our program, and henceforth we will be more insistent upon better and fuller reporting.

Prevention of communicable syphilis need not be concerned with about eighty per cent. of syphilitics over 56 years of age. Nevertheless, we supply free drugs for such cases. Indeed, far too large a proportion of our drugs have been requested for "treating a Wassermann reaction"

in late cases over 50 years of age. Most of such syphilitics have attained fairly satisfactory balance with their infection, their syphilis probably being not much more than saprophytic. If these old timers are treated safely (judiciously and conservatively), we do not object to supplying three-quarter to half-size doses according to age of patient. But, where funds are low it is the young people who must be given precedence because it is they who usually have infective syphilis; and it is they who can be depended upon to pass around what they have. Unfortunately, too few of this category are apprehended early enough; and when eventually located, they are seldom kept under continuous treatment long enough.

We do not blame doctors, druggist, or parents, but the harum-scarumness and irresponsibility of the youths themselves. Nevertheless, doctors should remember to look beyond treating only late cases in old ladies and mature men. Therefore, doctors are being asked to cooperate with us towards forging a network for catching infected youths early, and for holding them to adequate treatment. Unless town and county venereal control organizations are developed among doctors it may become possible that lay community leaders will become aroused to organize some free service for indigent and near-indigent syphilitics. We know that it would be best for all syphilis control activities to be in your hands and our hands jointly rather than to have such services administered chiefly by laymen.

The importance of early correct diagnosis we stress as much as treatment. Diagnosis is an integral part of our program, concerning not only our special Syphilis Section, but also our Division of Laboratories and our Division of Child Hygiene. Our Division of Child Hygiene is stressing the disastrousness of syphilis to maternal and child welfare, and is convincing every practitioner that blood tests for syphilis should be a routine part of prenatal care in *every* pregnancy. For our part, we are confident that a charge of malpractice could be established against a doctor who failed to have such tests made provided time and opportunity had permitted them to be made.

Concerning treatment plans and preferences, we leave details mostly to the judgment of the doctor treating the case. Therefore, we usually supply drugs as requested; especially if unusual requests are supported by statement of clinical reason. But, we should not, cannot and will not be so unmindful of our trust and duty as to supinely let ridiculous requests override us. We know we keep on the side of caution, and that occasionally a unit supplied might be a trifle light for some overweight patient whose weight had not been made known to us. We can say however, that no one has been blinded by our tryparsamide; that, for two years there have been no treatment fatalities except one; and, but two exfoliatives, and one case of aplastic anemia. Really an extraordinary record especially considering the unknown sources of the water used to make solutions.

For obtaining maximum effectiveness of therapy, and insuring safety, it is essential that we adhere to doses known to be the most appropriate ones for average age; sex and weight requirements. Vital weight above average for age and sex is apt to be justification for administering doses somewhat larger than average. But, persistence of positive Wassermann reactions alone, is not any justification whatever for overdosing. Overdoses are indefensible even if the harm they cause is not recognizable early in treatment. They actually lower tissue resistance without being more effective in destroying treponemes, and treatment bordering the hazardous cannot be continued sufficiently long. Syphilis is a disease to be worn out, not slugged out. Therefore, on the prescription blank which will soon be available, we will adhere to dosage, length of courses, sequences, and the principles of continousness of treatment; all as recommended by the United States Public Health Service, and by the latest Syphilis Conference of The League of Nations.

Consonant with the necessary safety principles mentioned, every doctor who requested drugs has been promptly sent sufficient for each reported case kept known to us as under treatment.

For lack of time we cannot undertake to explain why arsenicals and heavy metals should not be supplied during the same treatment month, but that fact we will gladly elucidate after the meeting, or with any doctor who cares to visit our Central Control Office at 300½ South Second Street, Springfield, Ill.

In closing we may again assure you that sufficient monthly allotments of either an arsenical

or a heavy metal can always be obtained free from us for each reported case; provided only, that the request certifies continuance of treatment and states the name or key number of the cases for which one or the other drug, or a special requisition, is being requested.

DISCUSSION

Dr. H. J. Burstein, Decatur: I am sure that most of us are acquainted with the added advantages that the State Health Department now affords us in the control of syphilis. Surely, enough is being said about early diagnosis, dark-field examinations, routine pre-natal serology, and continuous therapy with the arsphenamines and bismuth, so that the campaign against the disease should be well under way. The epidemiologic control work undertaken by the department has been greatly enhanced by the addition of full time investigators and with the distribution of the drugs free of charge in all cases, certainly none should be denied therapy because of finances.

From the statistics of the United States Public Health Service, and the Cooperative group, it appears that the efficiency of such a campaign will be primarily gauged by the percentage of cases of primary and early secondary lues coming under observation, that will receive a minimum of 20-30 injections of an arsphenamine and 40 bismuth. This minimum number has been conceded to guarantee a fair degree of security against mucocutaneous relapse and serologic reversal, except in the occasional therapeutically resistant case.

Certainly from the statistics formulated by the Cooperative group studies, we are in a better position to give the patient a sound idea of the problem involved, the necessity for receiving 18-24 months' continuous treatment, and a fairly reliable percentage figure of his chances for clinical and serologic cure, and thus obtain his confidence. In a program such as we are engaged, I believe it best not to dwell on the controversial subjects of clinical, serologic and biologic cure. For practical purposes, imply to the patient that he will get well and stay well. It is when we speak of the uncertainties of cure to the patient that we are apt to lose his confidence and have him discontinue treatment prematurely.

Regardless of whether the patient is treated privately or in a clinic, the personal contact factor between patient and physician will, in great part, determine the patient's willingness to cooperate and receive the specified amount of treatment. In our clinic at Decatur, which has been operating through the facilities of the State Health Department, the Decatur and Macon County Hospital and the Decatur Community Chest, we have attempted to limit treatment to those unable to pay their regular physician for adequate care, and all cases must be referred by a physician or local health authorities.

During the five-year period from January 1, 1933 to January 1, 1938, we have had 239 cases of recently acquired syphilis. Of this group, six were transients, five were institutionalized and 24 eventually returned to their family physician for completion of their treatment. Of these cases, 71% received continuous therapy with alternating injections and overlapping courses of bismuth salicylate and neoarsphenamine, most of them receiving considerably more treatment than the minimum of 24 and 40. An additional 11% received at least 20-30 injections of arsenicals or bismuth, either because of irregularity in attendance, failure to report or intolerance to medication. The remainder either received totally irregular treatment after the first few weeks or disappeared.

It has been our practice to give neoarsphenamine in courses totalling 6 grams, the usual dose being .6 grams, but using smaller doses in starting treatment and where the customary dose is not tolerated. In seropositive and seronegative primary cases, neoarsphenamine is given at the onset. In secondary lues a preliminary series of 4-6 bismuth injections is given. In many instances, if the patient has difficulty in reporting twice weekly, we have given combined therapy, always using an insoluble, slowly absorbed bismuth. In most cases combined therapy has been tolerated as well as alternating therapy.

While the serologic follow up is of utmost importance, we must remember that we are treating the patient and not the "blood test." It has been our practice to repeat the serology following each course of therapy and at the conclusion of treatment to have the patient return at intervals of from six months to a year, always bearing in mind the possibility of relapse and serologic reversal.

When necessary a complete physical examination and any indicated laboratory work is done. A urinalysis is obtained routinely at the start of each course of therapy and repeated where signs of intolerance develop. In lues complicating pregnancy, the urine is examined weekly, and treatment is usually continued up to term.

Our outstanding difficulty is our inability to obtain spinal fluid examinations. We have not attempted to do them routinely, mainly because of the patient's unwillingness to have spinals performed. Undoubtedly many cases of paresis and tabes could be prevented by earlier diagnosis of central nervous system invasion and institution of fever therapy in addition to chemotherapy.

In closing let me briefly enumerate a few factors deemed of primary import in the operation of a clinic:—

1. A service that will be available to all forms of cases, especially maternity and congenital cases.

2. A record system stating the diagnosis, especially the stage of the disease when first seen, which will in turn determine the amount and type of treatment. Most important are progress notes, giving details of the patient's response and any signs of intolerance or idiosyncrasy to various medications used.

3. Facilities for all necessary laboratory work.

4. An epidemiological service, such as the State Health Department has organized, for seeking sources of infection and contacts.

Dr. S. W. Becker, Chicago: There is no doubt that we are making progress in our campaign against syphilis. Every year more and more blood tests are being run, the increase being due to the necessity for premarital examination or as the result of routine blood tests on the parts of clinics, hospitals or private physi-

cians. Many physicians say, "I can't take routine blood tests on my patients," but it can be done. A physician who visited my exhibit this morning stated that in her office blood had been taken regularly for five years. The office nurse takes the blood from the patient's arm with no apologies or excuses, and the patient doesn't know what it's all about unless a positive test is obtained. The same approach to the patient is valuable in obtaining spinal fluid for examination. I do not see how syphilis can be treated intelligently without knowing the condition of the spinal fluid, and treatment without this knowledge is an injustice to the patient. In the University Clinics we simply tell the patient that it is necessary to take a test out of his back, and oftentimes the fluid is removed and the patient goes home without knowing that he has had the much dreaded "spinal puncture." In this way we have discovered many cases of neurosyphilis, and by giving appropriate treatment have saved many lives.

Dr. Burstein brought up a good point in the simultaneous use of arsenical and bismuth. The late Prof. Schamberg condemned the simultaneous administration of arsenical and mercurial drugs due to the supposed danger of complications, but advocated the simlutaneous use of arsenical and bismuth preparations, since with the combination less arsenical had to be used and consequently there was less danger to the patient. During the ten years that our clinic has been in operation we have given arsenical and bismuth in injections on the same day, so that the patients have had to attend the clinic only once weekly. We use a great deal of bismuth and less arsenical than is used by some sypilologists. It is evident that treatment once weekly is sufficiently frequent for the ordinary case, and the practice of having the patient attend twice weekly only adds unnecessarily to your overhead and inconveniences the patient. I do not know whether this would be an efficacious method were mercury substituted for bismuth, but mercury is used so little that the question has no practical significance.

There are other important factors in the handling of the syphilitic patient. A physician told me this morning about a woman who had consulted her after having had treatment for four years, who still had a 4-plus blood test, about which she was very much depressed. Assuming that her examination and treatment had been of the highest calibre—and too often they are not—she had been informed too well relative to her blood test. The report is of no value whatever to the patient and is purely for the information of the physician. We explain to our patients that the test is a clue which ferrets out the occult cases, but that treatment is based on experience and principles, and is regulated almost never by the results of the blood test. The occasional fixed positive which appears even after good treatment is only an indication for a yearly course of bismuth for the insurance of the patient's health.

The whole problem of the management of the syphilitic patient throughout the country is interesting from not only a public health standpoint but from the standpoint of saving the communities a great deal of money they are now spending for insane asylums and other institutions. The problem of getting adequate care for the patient is not always easy, but the city of Detroit and other communities have shown that it can be done. Detroit is the proud but probably uneasy possessor of a medical school, that of Wayne University. Their full-time professor of dermatology is supervisor of the syphilis clinic operated by the city, so that the patients obtain the benefit of the very best that medical science has to offer. Of course, gonorrhea, knowledge of which requires an entirely different type of training, is cared for by a genito-urinary specialist. Obviously, this ideal solution is not possible for all communities, but some sort of consultant service can always be arranged for, and the practitioner can take advantage of practitioner-specialist coöperation, so that the patient has the advantage of expert evaluation, although he is being treated by the practitioner.

I believe that we are fortunate in being one of the states where a great deal of effort is being expended on the syphilis problem.

Dr. Winston H. Tucker, Evanston: On your lumbar punctures, do you rest the patient after you make the puncture or do they go right home. This is one of the problems we are up against in our clinical work. We are afraid to do that. We have been advised to keep the patients over night. We are at a point where we want to do lumbars in a number of patients, but don't know exactly where we are going, and I would be glad to hear what you do.

Dr. Becker: We use a 21-gauge needle, which is a very fine needle, and remove 6 cc. of fluid, and tell the patients to go home and stay in bed for two days, and we have very little difficulty.

No closing discussion.

Dr. S. M. Miller, Peoria: Syphilis will never be controlled so long as cases are reported by symbol. This implies a dependence upon the physician for epidemiological studies. This latter is the responsibility of health administration and not that of the physician. We cannot expect the physician to investigate contacts and sources, have them examined and follow the chain of disease wherever it may lead. A community will not develop a complete venereal disease control program until proper epidemiological studies of all cases of venereal diseases are made, both clinic cases and those of private physicians, following contacts and sources of private cases just as is done in the clinics. The time has come when symbols are to be discarded when reporting venereal disease.

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CHRONIC NASAL SINUSITIS AND THE EXTERNAL ETHMOID-FRONTAL-SPHENOID OPERATION

IRVING MUSKAT, M. D., F. A. C. S.
CHICAGO

The probem of chronic sinus disease presents a very interesting, fascinating and intricate problem. I say problem because there is an indictment by the public as well as by the general medical profession against sinus disease. I believe that there is not one among you who has not encountered chronic sinus disease patients many times who tell you before you express your opinions that they will not undergo any surgery, or any more surgery, because they have learned from experience or from others, that sinus operations are of no avail. And so the expression "Once a sinus disease, always a sinus disease, and once a sinus operation, always a sinus operation" is the common expression in every walk of life. It has been so labeled not only by the public, the sufferer and the many physicians, but even by the rhinologist who attempts such relief.

The result of this indictment against sinus disease has been a battle of science to unfold new facts and new methods to combat it—and these I wish to bring before you. Through this progress of modern medicine much has been accomplished and it is our duty to acquaint the physician and the public with just what has been achieved.

In order to apply such progress to a great satisfaction we must understand the fundamental facts of chronic sinus disease. To the average medical man—and certainly to the greater part of the public—there is a lack of this understanding. They are not acquainted with the facts or have shut their minds as to whether the condition is the result of infection or allergy; or whether the antra, ethmoids, frontal or sphenoids are affected.

It is therefore of fundamental importance in our attack against this problem to make a correct diagnosis. It is necessary to determine the pathological status of the nose. If by history, examination, observation, x-ray and other clinical criteria at our command we determine what the pathological status of the nose is, then—and only then—can we begin to act and act intelligently. Certainly the procedures to effect a cure will vary according to these fundamental findings. Necessarily the procedure to eradicate an antrum infection will be different than when the ethmoids, sphenoids and frontals are diseased. The procedures necessarily also will vary according to the fundamental pathogenesis and the pathological status of the involved sinuses.

To those who have been misguided, let it be known that chronic headaches and nasal and postnasal discharge may be the manifestations of one or more infected sinuses; and, as the antrum is often the sole offender, let us therefore first consider it in our attack. Under such a condition a cure of the chronic sinus disease —in this case the antrum—should be expected under intelligent treatment. Such intelligent treatment depends upon the experience of the rhinologist and the interpretation of the pathological findings. This may be accomplished by antrum lavage alone or together with antrum window resection—depending upon the status of such investigation. When such conservative measures have proved inadequate, the removal of the entire antral mucosa by the Caldwell-Luc operation or its equivalent will accomplish a successful result. Clinical experience and knowledge of pathological findings will determine whether conservative or the more radical procedures should be instituted after careful examination of the patient. In this connection it must be remembered that the antrum is most usually a single cavity, easily and completely attacked by the Caldwell-Luc operation and that the removed diseased lining will be replaced by a new mucous membrane or at least a lining without suppuration. There are hundreds of such cases that await the skeptic, the disillusioned and the seemingly hopeless. Those who find fault with these facts will furnish observations and statements in the literature that a chronic osteitis may coexist and that this inflamed and infected bone beneath will defeat even the complete removal of the infected mucous membrane. Just what percentage are truly the expression of this additional pathological condition cannot be fully realized in our present state of knowledge, and therefore such criticism may be a misinterpretation of the facts. However, should this be the case without any doubt, the objection should be overcome by a removal of

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the osteitis and the entire infection controlled. Whatever is the final answer to this question, it may be said in passing that chronic antrum disease is almost always eradicated in the last resort by the Caldwell-Luc operation. The critics may also state that an allergic condition may coexist which is the underlying pathogenesis of the diseased mucosa. In answer to this rebuff no one will gainsay that the allergic condition should not be determined and controlled if possible, but it is also important to remove the chronically infected antral mucosa which has been engrafted upon an allergic membrane.

Now we come to a consideration of ethmoid, frontal and sphenoid disease. They are the sinuses of chronic disease, where after many attempts to eradicate the condition the sufferer is still left with his plight, often added to despair and sometimes mental derangement. These are the sinuses that are mainly responsible for the slogan "Once a sinus infection, always a sinus infection, and once a sinus operation, always a sinus operation." These are the crimes with which the public has accused the medical profession. But in the battle to freedom the rhinologist must secure all the knowledge and experience scientific endeavors have furnished during the past years.

There are to begin with certain fundamental facts which must not be cast aside. The chronic infection of the ethmoid-frontosphenoid group in the first place precludes that an acute condition existed and that early and intelligent treatment in these cases would have prevented a great number of chronic ones. Together with this fact, the public must be made aware that to avoid chronicity that every acute and subacute sinus condition have early and decisive treatment by those capable of administering such measures. It may be necessary to institute such simple measures as shrinkage and suction, or it may be important in addition to remove infected tonsil and adenoids. Or it may be necessary to remove a deviated portion of the septum or to remove a few anterior ethmoidal cells, or to infract or remove a part of the middle turbinate. When such decisive measures are instituted early and intelligently, a great number of chronic cases would be prevented. But such a utopia is not to be expected considering the knowledge and financial status of the general public; and so the cry for substitutes, such as indiscriminate use of vaccines, vitamines, electroheating, skin-scratching and what not, continue to din the ears. Such raucous clamoring must be subdued to its right and honest position if we are to hear the voice of progress.

Let us further consider this group of cases of purulent fronto-ethmoidsphenoid disease that has resulted from lack of adequate early attention or has persisted in spite of many intranasal operative attempts to effect a cure. This class of sinus disease precludes the involvement of the posterior group, namely, the posterior ethmoids and sphenoid sinuses, often with a chronic frontal sinus involvement. Many of these cases are suppurative from the beginning, while others begin as a hyperplastic, non-purulent type which later becomes purulent. The diagnosis of this state is made by the characteristic history of chronic nasal discharge, repeated nasal operations and substantiation of the pathologic picture by examination and x-ray findings.

Before pointing out the reason for failure to obtain a cure by the so-called conservative intranasal operation, it is pertinent to define "a cure." Ferris Smith aptly states: "The ideal cure obviously demands the restoration of the normal condition or function, but this is too much to expect in any long-standing infectious process. It can be closely approximated, however. A clinical cure demands the complete removal of the underlying pathologic condition with the minimum disturbance of function and the preservation of the normal appearance of the patient. It presumes the complete eradication of infection with its remote signs and symptoms and the absence of local manifestations."

The repeated attempts to cure chronic suppurative disease of the posterior ethmoids and sphenoids by an intranasal operation has been notoriously futile because of the wide anatomical barriers to reach all of these cells through this route. We are all acquainted with the wide and anomalous extensions of the ethmoid cells in the skull which cannot be reached by direct vision through the nose. The chronic infection of the entire mucosa with hyperplasia of the glandular structure, the multiple abscesses and cysts in the mucous membrane often present, the existing fibrosis and polypoid changes and the periostitis of the underlying bone cannot be obliterated by intranasal methods.

We are also aware of the extreme difficulty in

removing all the pathological mucous membrane of a disease sphenoid through the nose and the tendency of its ostium to close again unless the diseasesd lining is eradicated and subsequent infected granulations are obviated by the complete removal of its floor. The radical and efficient removal of the sphenoid floor through the nose entails the danger of intracranial trauma with subsequent meningitis and death, as well as the danger of uncontrollable hemorrhage. When these important principles are not accomplished, inadequate drainage and reinfection reoccur. Add to these barriers the danger of working in these regions in a bloody operative field, gives further reason for the prevalent failures and discouragement of eradicating posterior ethmosphenoid disease by the intranasal route.

The intranasal route may be considered proper to promote drainage and aeration by conservative measures where there is subacute edema or inflammation of the superficial layers of the tunica propria or when there is an early polypoid or hyperplastic condition.

In retrospect, it is not difficult to account for the failures of intranasal surgery when one considers the truth of Ferris Smith when he states: "In an extensive experience, I have never failed to find bacteria in those chronically diseased sinus linings. They are common in the subepithelial areas in the early chronic cases and are always found about the glands and vessels and in the reticular spaces in the old cases. One frequently finds periostitis and osteitis to account for the recurrent symptoms after incomplete removal of the diseased tissue. Pure cultures are present, the green hemolytic and the hemolytic strains being about equally frequent. The commonest accompanying organisms are pneumococci and micrococcus catarrhalis."

It is therefore apparent that any attempt to exenterate all pathological extensions of the ethmoid cells and the associated osteitis and the ablation of the sphenoid mucosa and its floor intranasally is practically impossible and anything but conservative.

To overcome the difficulties and inadequacies of these problems the external approach to the fronto-ethmosphenoid pathological changes has been developed. It now offers the least radical and only certain means to accomplish a cure. Radical and conservative being relative terms, it becomes at once apparent that it is far more radical to attempt (which is impossible and dangerous) to eradicate all diseased tissue via the intranasal route. The external route by contrast, therefore, affords a more conservative method of approach because under direct visual guidance every crevice can be accurately and adequately dealt with.

These principles and facts are gradually becoming more generally accepted by even the most conservative minds in rhinology. They are accepting these principles because of an open and progressive attitude. As Mosher puts it in evaluating this progress, "The pendulum is swinging from the intransal ethmoid operation to the external. I agree with the change. If your knowledge of applied anatomy justifies your doing any ethmoidal operating at all, thorough work can be done more safely by the external route."

The principle of this procedure is not new. In 1894 Jansen describes the basic principles and technique of such a procedure, and in 1899 Knapp again described its efficacy and success. However, it remained for Lynch of New Orleans in 1921 to revive the work of Jansen and Knapp and give it its present impetus. In 1920 Sewell sought to overcome a bloody operative field which made nicety of technique impossible by a procedure of ligating the ethmoidal and sphenopalatine vessels supplying the operative field through the operative incision and in the immediate neighborhood of the surgical field. To the skill of Ferris Smith we owe the invention of special instruments to facilitate and expedite the execution of the operation and the ligation of these blood vessels. Thanks to these courageous men we are today on a new threshold of enlightenment and accomplishment. Those who will not seek the light will remain in the dark and remain defeated in the battle against chronic sinus disease. It is the acknowledgment of our defeats and the acceptance of new thoughts and new ways that carry us on to greater accomplishments and achievements. True, the external ethmosphenoid approach is no plaything for the untrained and unskilled, as its execution demands experience, technique and knowledge of sinus pathogenesis, pathology and anatomy.

The principal features of the technique may be briefly described as follows: Preoperative medication consists of giving sodium amytal or its equivalent the night before and before operation to insure rest. Cocaine-adrenalin pledgets are

placed in the nasal chambers to anesthetize the mucous membrane. Essentially the operation itself consists of incising the skin and periosteum over the nasal and frontal bone between the bridge of the nose and the inner canthus of the eye followed by separation of the inner periosteum and lifting the periorbita from its attachment, thereby exposing the lamina papyracea and lateral wall of the ethmoidal labyrinth, the floor of the frontal sinus and the ascending maxillary process. By careful dissection the anterior and the posterior ethmoidal arteries are isolated, tied and cut to insure control of bleeding when the intranasal structures are removed. The external wound is kept open by special retractors designed by Ferris Smith for this purpose. By entering the nasal chambers through the lacrimal fossa the diseased tissues are removed through this external opening or through the nose. At all times the use of the punch forceps and other instruments can be controlled by direct vision. In this manner the entire ethmoidal labyrinth up to the cribriform plate, as well as the floor and anterior wall of the frontal sinus, can be readily and efficiently dealt with. Also the sphenoid ostium, its floor and anterior walls can be attacked by direct vision and, if expedient, the tying off of the sphenopalatine artery along the base of the sphenoid sinus can be readily accomplished. In this manner, under direct vision and with control of bleeding, all diseased tissue is removed—leaving a smooth, continuous, clean surface of healthy bone. After the insertion of a rubber tube along the nasofrontal duct, the periosteum of the incision is pulled over the maxillary and nasal processes and approximated and the skin closed. No packing is left in the nose because there can be no postoperative hemorrhage. When indicated, the antrum may be next attacked by the usual Caldwell-Luc operation. The postoperative reaction is slight and the patient can be discharged on the fourth or fifth day. The nose is kept clean by suction and kept oiled with ¼% phenol in liquid albolene until healing is complete.

In considering the full value of the external approach in the eradication of chronic disease of the fronto-ethmosphenoid group we must be mindful of some other important truisms. When the frontal sinus is large and its mucosa chronically diseased, its lining is also removed with the removal of the floor and diseased portion of its walls. A persistent nasal discharge after the diseased ethmoids and sphenoids, as well as the antrum are obliterated, is usually due to infection persisting in the frontal sinus. Clinical and pathological findings at the time of operation will determine whether the frontal sinus should be included at the operation. When the obliteration of the frontal sinus is included in the operation it is necessary to keep the patency of the nasofrontal duct open, to avoid its closure by the falling in of the periorbita of the eye against the septum, preventing drainage from the frontal sinus and inviting further frontal sinus complications.

To obviate such complications, Sewall makes a frontonasal mucous membrane flap, while Smith uses a Thiersch graft held in place by a specially designed inflatable rubber bag. However, these procedures are difficult to execute efficiently by even the average operator and besides have their faults. It has been recommended that merely the simple insertion of a rubber tube in the nasofrontal duct and the taut approximation of the periosteal incision will prevent such closure. This has not been my experience and I am sure it is not the experience of those who have operated many cases. Where the frontal sinus is small, I believe healing-in by granulation by external drainage will obviate any further recurrences. Where the frontal sinus is large and its lining must be removed, together with exenteration of the ethmoidal labyrinth and sphenoid, I believe that the Ferris Smith Thiersch graft, although it has some objections, is the best method.

There is one other phase to be mentioned in connection with the external fronto-ethmosphenoid disease. It is to be conceded and remembered that a great many cases of chronic nasal sinus disease have their pathogenesis in allergic states. It therefore stands to reason that should one eradicate all diseased tissue by this method, it is important to discover and control the allergic agents if we are to prevent a repetition of the patient's misery. To say the least, this problem has been responsible for subsequent discouragements of our efforts. Of course, the status of the sinus condition presents the indications for surgical intervention and it must be remembered that after deep and chronic changes occur in the mucous membrane of the nose as the result of allergy, control of the allergic state

will not cause a return to the normal of chronically involved mucous membranes of the nose.

Now, what about allergy? I do not want to go into a detailed discussion of allergy in connection with nasal sinus disease, but want to point out some of the dangers of riding this nobby too high. Success in this field demands cooperation of the rhinologist and allergist and both must have knowledge and intelligence. The mere scratching of skin will prove disappointing in most cases unless knowledge, experience and cooperation are united. Allergy is a wide term and we know little of its mechanism and meaning. Individuals may react differently at various times under different conditions, and may show positive reactions of substances which are only remotely related to the causative agent. Not infrequently individuals show reactions to various atopic substances which have been engendered through some other fundamental atopic influence and which have no bearing on the nasal condition. There are many pitfalls in the scratching hobby and we cannot follow skin reactions blindly. There is also the thought of bacterial allergy, physical allergy and food and drug allergy. Just where one begins and one ends has not been answered and their mechanism in relation to each other is still shrouded in mystery. Probably physical chemical research will discover the mechanism and meaning of such elusive cellular reaction.

There is one other phase which should be mentioned, i. e., the study of x-ray findings. Here, too, cooperation of the rhinologist and roentgenologist is very important, and such cooperation, to be of greatest benefit to the patient and physician, must be combined with experience and intelligence. Merely taking pictures and labeling them will result in many failures and misconceptions. But progress is being made in this direction and the many foes in this combat are slowly but definitely being conquered.

In conclusion, may I hope that under the influence of our modern age of reason and progress, ignorance will change to understanding and knowledge and darkness into light with benefit to those thousands of unfortunates, and credit and satisfaction to ourselves.

25 East Washington Street.

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DISCUSSION

Dr. J. Allan Weiss, Chicago: Doctor Muskat has given an excellent presentation of the principles pertaining to this valuable procedure. The external fronto-ethmosphenoid operation has a definite place in the treatment of certain multiple sinus infections and their complications. With this technic one can successfully eradicate all diseased tissue. The procedure leaves no bony deformity and only a negligible scar. I have employed it in 15 cases, in private practice and at the Illinois Eye and Ear Infirmary, with satisfactory results. One cannot emphasize too strongly the necessity of restricting this operation to those cases in which it is warranted on the basis of the extent and chronicity of the infection. If the indications were determined by a careful consideration of the history, together with the clinical findings and x-ray evidence, it would do much to refute the prevalent criticism of indiscriminate radical sinus surgery.

I should like to report a case of meningitis of rhinogenic origin in which the external approach was used to advantage. When first seen, the patient had an acute exacerbation of a chronic pansinusitis, with considerable chemosis of the right eye, high fever, leukocytosis, severe headache, rigidity of the neck and a positive Kernig sign. He was semi-comatose. Roentgenograms showed cloudiness of all the sinuses on the right side. The spinal fluid contained 450 cells per cu. mm. with 53% polymorphonuclears. Direct smear and culture of the fluid were negative. When the frontal and ethmoid sinuses were entered, the mucosa was found to be hyperplastic and acutely hyperemic. The sphenoid, in addition, contained a sero-sanguineous fluid. Recovery after the operation was dramatic. I believe that it is justifiable to state that opening the sphenoid sinus terminated the advancing serous meningitis before bacterial invasion occurred to convert it into the diffuse suppurative stage.

The external combined operation has been aptly described as adequate or complete rather than "radical." Ferris Smith, Sewall, Lynch and others have pointed out that its advantages are:

1. Safety, as the operative field is under direct vision.

2. Effective hemostasis obtained by ligation of key blood-vessels.

3. Exenteration of cells not accessible via the intranasal approach.

4. Local anesthesia complemented by adequate preoperative sedation.

5. Little or no pain during or after operation.

6. Mild postoperative reaction and short convalescence.

The technic, while painstaking and time-consuming, is not difficult. However, it requires a thorough knowledge of the regional surgical anatomy, based on cadaver dissection preceding operative experience; it demands a cautious respect for adjacent vital structures; and, it presumes the surgical dexterity and judgment possessed by any competent rhinologist.

Doctor Muskat is to be commended for stimulating renewed interest in this worthwhile procedure.

Dr. George Shambaugh, Jr., Chicago: I was much interested in Dr. Muskat's paper. I thought the most interesting part was his reference to allergy. I think allergy is much neglected and that it is very important in these chronic sinus conditions. I do not believe, however, that the answer lies in cooperation with the allergist. Hansel has become an allergist in his own right as well as a rhinologist, and is obtaining results far ahead of those that allergists have ever been able to obtain.

An interesting case of allergic rhinitis was a patient who had been coming to the office for many years because of ethmoid sinus infection complicated by a nasal sinus infection every winter. There was nothing to suggest allergy. When the nasal smear was examined for eosinophils there were a tremendous number found in the nasal secretion. That, according to Hansel, is important in the diagnosis of allergy. This patient went to Jamaica where his nose entirely cleared up. When he came back to Chicago the sinusitis returned. In Chicago he breathed a large amount of dust, and in Jamaica the air was dust free. I think he required five injections of autogenous dust extract and since receiving these he has had complete freedom from his sinusitis.

Dr. Thomas C. Galloway, Evanston: Any procedure which is radical should be without more danger than is commensurate with the results obtained. I happen to know about three cases of meningitis, all of which had had the Sewall type of external operation. It is not an operation to be done casually or without thorough study but it is at times necessary and offers a marked refinement in technique for the external approach.

Dr. Irving Muskat, Chicago (closing): I want to thank the members for their kind discussion but I feel that they have clouded the issue. I thought I had made clear the principles of the external approach to chronic nasal sinus disease, viz: the prophylactic care of acute and subacute nasal sinus conditions, the recognition and early treatment whenever possible of allergic states and the radical removal of infected mucosa and bone when such conditions exist under any cause, especially when the conservative intranasal methods have failed to bring about any amelioration or have made the condition worse. I did not wish to give you a dogmatic list of indications for the external approach of the ethmoid-sphenoid-frontal involvement, but merely wished to bring before you a principle of thought to the problem as we are confronted with it today. This means the understanding of nasal pathology, pathogenesis and the knowledge of the inadequacy of intranasal measures in chronic suppurative ethmoid-sphenoid disease. I had hoped that there would be no issue involved about early allergic cases. To speak about nasal symptoms in an early case of allergic disease and its recognition by the eosinophiles in the blood and nasal secretions is only clouding the import of my message. What I had to say was that allergy may have been the basis for the chronic suppurative nasal sinus disease which cannot be controlled by conservative nasal measures in the late stages of disease. As regards to the value of asthma and nasal sinus operations I want to say that I have purposely avoided such argument because it was not the topic of my paper and because we have not at this present time mastered the principles of sinus disease or even those of asthma. Whether asthma is to be benefited by a Caldwell-Luc operation or not is outside the question of whether the nasal operation should be performed. The indications for a Caldwell-Luc operation is made primarily on the nasal disease. Its relation to its benefit to the associated asthma is still a mooted problem because all the facts are not known. However, there should be no question about the operation on the nasal sinuses in the case of an associated asthma when the nasal condition demands per se such an operation. My personal feeling in this matter also is that such a radical operation on the nasal sinuses cannot increase the asthma but on the contrary often improves it. The same principles must be applied to chronic suppurative ethmoid disease associated with asthma where conservative intranasal operations have failed to control the nasal suppuration and incidentally have failed to benefit the asthma. The nose per se under such circumstances will demand the external ethmoid approach for the removal of nasal disease which cannot be accomplished by the intranasal route. Whether the asthma is to be relieved or not is another question too lengthy to discuss at this time. There are so many facts to be considered that to become dogmatic will only prevent progress in the solution of these problems. As far as I am concerned I may merely wish to state that the external ethmosphenoid approach depends upon the nasal condition itself and that its value to an associated asthma is another question. Personally I believe that all in all, such procedures should benefit the asthma as well in many cases, but time will not permit me to discuss chronic bronchial changes and other factors less known that occur in untreated chronic asthma. If we stick to the fundamental facts and principles I feel sure that the clouding of the issues will ultimately clear.

CAUSES OF INTERNAL HEMORRHOIDS

CHARLES J. DRUECK, M. D., F. A. C. S.
CHICAGO

Internal hemorrhoids are varicosities of the superior hemorrhoidal vessels and arise entirely within the anus. They begin at the points of anastomosis between the portal and the caval systems. These anastomoses are numerous. The most common origin is at the level of the valves of Morgagni about a half inch above the anal orifice, and from here they gradually extend up to the larger trunks and plexuses. Even normal veins are somewhat enlarged in this situation and are called glomeruli.

Hemorrhoids occur in two distinct types, the small capillary and the large venous.

A capillary hemorrhoid is a small tumor rarely larger than the end of the little finger and sometimes as small as a pinhead. It is an arterial naevus, spongy in texture and resembling a strawberry. Early in their existence, these tumors have a granular surface covered with a thin wall and are likely to bleed. Later, a plastic exudate and thickened areolar tissue covers the vessel; hemorrhage then occurs less readily. The gentlest examination or even the passage of the feces may be sufficient to start hemorrhage. I recall one case in which bleeding was profuse while the pile was found to be no larger than the head of a black pin. Excessive hemorrhage, particularly if spurting in character, is pathognomonic of capillary hemorrhoids. Frequently large amounts of blood are lost and a number of deaths have been recorded from this cause. Of course a large capillary or arteriole is necessarily involved here.

This tendency to profuse bleeding makes a capillary hemorrhoid much more dangerous than the venous variety. In the palliative treatment this distinction is imperative, because the patient may be exsanguinated while the physician is temporizing with injections of styptics. The capillary piles do not protrude or cause any of the pain or discomfort attendant upon the venous variety. Hemorrhage itself is the cardinal symptom and requires energetic or even heroic treatment.

The venous hemorrhoids are of more common occurrence than the arterial. The pile may appear as a good sized tumor, frequently a half to an inch across its base and covered with a livid bluish and glistening mucous membrane. Matthews reports seeing one as large as a small orange. These venous hemorrhoids are situated in the submucous connective tissue. They begin with venous pools and are composed of a dilated and varicosed vein, with its capillaries, and also the arterial capillary supply. They are located, usually, one on each side of and slightly in front of the posterior commissure and on the right and sometimes left of the anterior commissure. Sometimes the whole anal ring is a mass of varicosed veins, especially when due to diseases of the heart, liver or kidney, and this varicosed condition may extend the whole length of the rectum.

Sometimes several small veins may be twisted together into one mass. The sacculations and varicosities are limited to the venous vessels and do not affect the arteries. The tumor is not wholly composed of veins, but around this mass of vessels there is a fibrous capsule which sends trabeculae (partitions) in between the veins. The mucous membrane covering the pile is chronically inflamed and the walls of the veins are easily thickened by this inflammatory hypertrophy; later they are extremely thin, with nothing but an endothelial covering. Sometimes such vessels may form large venous pockets.

Internal hemorrhoids are brought on by anything that increases local blood pressure. Man is the only animal assuming an erect posture during most of the waking hours. In this position, of course, a heavy column of blood must be lifted through these veins continuously for many hours. During our whole active life, there is the predisposition to the formation of hemorrhoids, and only some little local congestion or inflammation is required for the varicosities to develop. For this reason proctitis is a very common cause of hemorrhoids.

The Relation of Proctitis to Hemorrhoids. Early in my work I noticed this association of hemorrhoids with proctitis. The acute catarrhal proctitis is often met with and always you will find an edematous mucous membrane with its hemorrhoidal vessels engorged. As the proctitis subsides the hemorrhoidal edema and engorgement also is reduced and finally disappears. If, however, the proctitis persists as a subacute or chronic form, the hemorrhoids also continue and a gradual hypertrophy of the mucous membrane

results. This increases the bulk and weight of the mucosa, which separates and slides down on the areolar tissue until it is grasped in the sphincter. The spaces of the submucosa about the hemorrhoid are filled with connective tissue. Later, when the proctitis reaches the atrophic stage, the hemorrhoids remain, because of this connective tissue infiltration which permanently constricts the venous overflow.

Now a second factor enters. The descending fecal mass, acting in the reverse direction on the veins, distorts the latter further and tears more mucosa from the muscular wall. With each bowel movement, the hemorrhoidal mass acts as an obstruction, as the feces are forced through. This increased muscular action drags down the hemorrhoid and the adjoining mucous membrane until they prolapse, thereby increasing the size of the hemorrhoid itself. Finally when they have attained considerable size, they prolapse easily and act as foreign bodies tending to excite the sphincter.

Causes of Hemorrhoidal Congestion. Hemorrhoids brought on in the manner described are the result of digestive disturbances, the improperly digested or fermenting bolus acting as an irritant. In this way, constipation is a frequent cause, while the vein is ruptured by the frequent engorgement and stretching due to the passage of the feces. Thus it is that drugs used to relieve the constipation (aloes, senna, calomel, gamboge) also frequently congest the rectal circulation. Warm enemas also act in this manner. Certain articles of food, by irritating the mucous membrane, cause increased peristalsis or tenesmus and thus provoke hemorrhoids. (Notable among irritating comestibles are spices, peppers, mustard, sauces, radishes, water-cress, tamales, chili con carne and pickles, also alcoholics and tea.) An excess of a carbohydrate diet that cannot be cared for by the liver blocks the portal circulation and later the hemorrhoidal vein. These dietetic changes account for the apparent influence of the seasons upon the hemorrhoidal circulation. As the warm spring weather comes the system cannot dispose of the same amount of carbohydrates as it had been accustomed to do during the winter, and so the load is thrown upon the portal circulation.

Besides constipation there are other conditions that cause straining or a bearing down and thus tend to congest the pelvic venous current; among these particularly, are stricture of the rectum or urethra, stone in the bladder, an enlarged prostate gland, the pregnant uterus or a myoma of that organ, pelvic exudates, adhesions, even a retroverted uterus. It is well to bear each of these conditions in mind, because a patient may consult you when suffering from one of them, and at the same time, complain of hemorrhoids. The hemorrhoids do not require treatment directly, being wholly dependent upon the underlying conditions. In this same manner, all those occupations that increase the abdominal or pelvic pressure will induce hemorrhoids such as severe muscular exertion or prolonged standing or sitting still, especially if on a vibrating platform, as in the case of railroad men, or teamsters. Desk workers also frequently are sufferers, owing to sitting in a bent-over position, which crowds the abdominal contents toward the rectum.

One other class of positive causes of hemorrhoids is disease of the heart, liver or pancreas and syphilis. Since the exciting cause in this class of cases cannot be removed there is no hope of curing the hemorrhoids, and a tentative treatment is all that can be undertaken.

Hemorrhoids Occurring During Pregnancy and the Puerperium. The physiology of the female pelvis constitutes an etiologic factor in the production of venous stasis, and therefore is a cause of hemorrhoids, which does not have to be reckoned with in the male. Unquestionably, the most important of these functional factors is pregnancy, which imposes upon the hemorrhoidal veins such a continuous pressure, or else so violent and sudden a pressure during labor, as to make the occurrence of piles a very frequent complication.

There are many other conditions which cause straining or bearing down and thus congest the pelvic venous current.

Constipation is the rule during pregnancy because of displacement of the bowels, abnormal innervation, general inactivity of the woman or interference by the enlarged womb with the bearing down efforts during defecation. One or more of these factors, together with the increasing abdominal tension, determine hemorrhoids as a common complication of pregnancy or the puerperium even in women who have been previously free and who may completely recover after confinement until the next pregnancy,

when they may have a recurrence. Sometimes these piles are very troublesome and occasionally serious. Anal fissures are frequently associated.

Hemorrhoids developing during pregnancy usually involve the internal hemorrhoidal vessels and vary considerably in the disturbances which they cause. In some patients they may be easily controlled and the fullness and tenesmus relieved or made bearable with cold compresses and a sedative ointment. In severe cases there is usually associated varicosities of the legs and vulva which altogether make a most unhappy woman. The vaginal vessels may be as varicosed as the hemorrhoidal and the vaginal walls protrude through the vulva just as the rectal walls are forced out of the anus. These patients, because of the increased abdominal pressure together with autointoxications and faulty eliminations, demand energetic treatment. The varicosities of these vessels unless promptly relieved become permanent with all the attendant train of evils. Sometimes in severe cases these hemorrhoids swell up, over-distend, rupture and bleed and even become gangrenous sloughs while the gravid woman is reduced to invalidism. This dangerous condition and much of the suffering may be prevented by the physician watching his patient's elimination, and by proper exercise and the avoidance of promiscuous use of harsh cathartics at this time.

In a second class of patients the internal hemorrhoids cause but little annoyance during pregnancy, but they engorge and bleed during labor. Both these and the previous varieties predispose to perineal lacerations and some accouchers remove the swollen piles during labor, while others recommend waiting until after the puerperium. During the lying-in period both of these varieties cause a great deal of distress. If the internal hemorrhoids protrude they should be replaced and held back during labor as carefully as during the puerperium. Much can be saved by a competent accoucher. Of course, no attempt should be made to push external hemorrhoids within the anus.

A third variety of hemorrhoids occurs in patients who have not had any evidence of piles during their pregnancy but who have had long and exceptionally hard or instrumental labors. Sometimes the hemorrhoid may be seen during a labor pain or is found the next day. There is usually but one or two piles. Sometimes a definite pile is not found, but the blood extravasates into the edematous tissues. This kind of hemorrhoid is due to the hydrostatic wedging apart of the different structures as the serum is effused into the peritoneum and about the anus by each propulsive labor pain. This increased succulence or edema of the parts, together with the crowding of the baby through the passage, drives the fluid between the connective tissue, thus separating the skin and the muscular walls. As this fluid is only slowly absorbed, it leaves the pouching skin tabs as a consequence. Unless these skin tabs are prevented from forming during the puerperium they will interfere with the proper toilet and lead to pruritus and necessitate removal later.

Overfilling of the bladder or sigmoid is perhaps an often overlooked cause of the persistence of this infiltration until skin tabs are formed. If your puerperal patient's pelvis is kept free from excreta, the lymph circulation will have a chance to carry off the fluids, but they cannot do so if the distended bladder or rectum presses upon the lymphatics.

Another factor to be remembered is that with the woman lying on her back the lymphatics and venous circulation must be lifted the height of the sacrum to get out of the pelvis. As both of these systems have poorly supported vessel walls, which are already weak and boggy with softening, the lifting of this column of fluid further slows the circulation. It is therefore essential that the lying-in woman be turned occasionally to assist the pelvic circulation and that the back and the sacral regions be massaged and the legs passively exercised.

58 East Washington St.

NASAL SEPTUM SURGERY IN CHILDREN

M. H. COTTLE, M. D.
CHICAGO

The nasal septum develops from mesenchymal mesoderm and in its growth is at first membranous, then cartilaginous, and finally the mixed cartilaginous and osseous structure of the adult.

The primary nasal septum is very thick and separates widely the nasal fossae.

The mucosa at this time is quite thick and may be thrown into prominent folds persisting

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into early infancy, especially about the future vomer.

Later by an ingrowth of cartilage from the body of the sphenoid the septum becomes converted into a cartilaginous plate. This is then divided into the perpendicular plate of the ethmoid, the vomer, bomeronasal and septal cartilages by ingrowths of connective tissue.

The perpendicular plate of the ethmoid does not undergo complete ossification until the 17th or 18th year of life, though this starts in the first year of life, usually from a single ossification center.

The true adult vomer grows from a pair of ossification centers one on each side of the cartilaginous septum. This starts at about the eighth week of fetal life and is not completed until after the fifteenth year of life. A plate of bone grows on each side, eventually fusing at the expense of the cartilage imprisoned between them.

The cartilaginous septum persists throughout life as the septal and vomeronasal cartilages without much change. These do not fuse with the neighboring bones, but form articulations with them and each other. The periosteal and perichondrial membranes are carried over from one part to another as suture membranes.

ETIOLOGY

The chief causes of septal deviation are trauma and abnormalities of growth.

Children and infants are obviously subjected to many injuries of the nose which as a rule involve the soft, pliable, movable portion of the nose and with it the cartilaginous portion of the septum. This may become luxated so that it obstructs one or both sides of the nose, or thickened by injured parts growing together side by side instead of end to end.

Most septal anomalies are due to the lack of the precise limitation and approximation of all the parts during the development of an adult nasal septum. The distance between the cribriform plate and the palate often becomes shortened and unless the perpendicular expanse of the septum is correspondingly short, deviations must occur.

The cribriform plate frequently is lower in the nose, and a high arch palate is often seen. These two factors are common causes of deviations.

An inequality in the development of the two plates of the vomer is another important etiological factor. Lastly, deviations may be caused by the growth of turbinates or tumors crowding the septum over the other side.

SYMPTOMS AND DIAGNOSIS

When the cartilaginous portion of the septum is involved the diagnosis is easily made. The local symptoms vary with the degree and location of obstruction, yet it is sometimes surprising to find a marked obstruction without obvious symptoms.

The diagnosis of bony deviations is not commonly made in children first because too infrequently they are not looked for and secondly because an examination to determine their presence is not so easily done especially in very young children.

In nearly all children who have a marked septal deviation, there is besides the symptoms of nasal obstruction a more or less profuse nasal discharge. This produces two important trains of events, first the secretion is usually thick and tenacious and clings to the nasal mucous membrane especially along the floors of the nasal chambers and is dislodged only with the greatest difficulty. This fact in turn predisposes the child to more nasal discharge and obstruction and repeated infections with its attendant ear and sinus complications. Secondly, the child swallows large amounts of the nasal discharge and it is thought by many (1) that gastrointestinal disturbances result therefrom very frequently.

TREATMENT

Without going into further detail it is apparent that septal deviations in children require treatment very much more frequently than is commonly thought to be the case.

The objective of treatment is primarily the elimination of nasal discharge. Surgery of the nasal deviation is only indicated when conservative management over a protracted period has failed to give satisfactory results.

Alexander and Wyndham have written on the type of septum operation that can be done in children. They both reported many instances where the typical adult operation was done and good results obtained. Such a statement of course brings up the old question of how much of the septum may be removed without interfering with the development of the nose and sinuses. Study of the literature on this point only shows that opinion is divided, and that hardly anything has been done in an experimental way to prove convincingly the effects of an operation.

In the early days of the septum operation on adults, opinion was also divided on the healing of incisions in the nasal cartilages. Freer maintained that complete repair occurred while Ballenger said that this was not the case. This particular question is also of great importance in operations on children.

In several instances I have made incisions through the nasal septal cartilages in adults in vivo and months later removed the cartilage for microscopic examination of the incision. Reunion of the edges of the cartilage was never seen. But repair was effectively produced by the formation of fibrous tissue all around the incision, originating I believe, from the perichondrium.

As far as I have been able to conclude, removal of parts of the septum may be done without apparent effect on the growth of the nose but with two important exceptions. First, the anterior border of the columella supports the end of the nose and its removal or injury results in marked dropping and flattening of the nose; and, second, the dorsal border of the septum prevents sagging, and must be left intact.

However, I do not believe that enough is really known to warrant extensive removal of the septum in children as is done in adults and therefore, this operation should be strictly limited to the most extreme types of deformities.

It has been my experience that a little architectural improvement gives adequate results. If one increases the diameter of the nasal passage in the region of an obstruction by only two or three millimeters it is often astounding to see what great improvement follows.

White in 1930 wrote of the value of vertical or horizontal incisions in the cartilage to permit pushing a deviation towards the opposite side even if only for a few millimeters.

About this time too, Metzenbaum published his technic for the surgical correction of the subluxated cartilage. This operation is very useful in children even though the apparent result may seem insufficient.

I have had the opportunity to try three other procedures in the surgical management of deviated septal cartilage in children.

(1) To facilitate pushing the convexity of a deviation of the opposite side, I make both horizontal and vertical incisions in the cartilage. These are made directly on the cartilage after the mucosa of one side has been elevated. The squares of cartilage remaining are attached to the other mucous membrane which should not be injured while making the incisions in the cartilage. Free mobility of the "checkerboard" cut cartilage is thus obtained. Splints hold the septum in the position desired.

(2) If this is not sufficient the second procedure is indicated which consists of splitting one or more of the squares sagittally and removing the unattached portions thus obtained. Splitting can also be done without the preceding checkerboard incisions if a mobile septum is not necessary.

(3) More effect can be obtained by procedure three which is simply the removal of one or more of the squares of cartilage following the making of the checkerboard incision.

Ridges of the vomer are the commonest deformity requiring surgical attention in children. I attempt to make one or more incisions with a small semilunar saw and then retract the bony deviation away from the lateral wall of the nose with which it is in contact.

Twenty-two children in private and clinic practice were operated upon between 1928 and 1933. In four the results were inadequate and they were operated upon again. In none has there been a sagging or depressed nose or any obvious developmental retardation. On the contrary strong, straight noses were the rule. Excessive nasal discharge was not always completely alleviated as several children also had considerable sinus disease. Adenoids were of course removed in all these children long before septum surgery was attempted. Turbinates were not removed in any instance.

Postoperative medical management over a period of months was also required in eight cases before there was complete cessation of discharge.

CONCLUSIONS

1. Nasal obstruction and chronic discharge are frequently the result of septal deviations.
2. Non-surgical treatment is frequently needed and most often adequate.
3. Occasionally surgical measures are indicated.
4. The adult type of septum operation is unnecessarily radical for children in all but very rare instances of extreme deformities.
5. Three procedures are suggested to aid in the conservative surgical management of septum deviations in children.

HUNTINGTON'S CHOREA AS A PSYCHIATRIC AND SOCIAL PROBLEM IN ILLINOIS

EUGENE I. FALSTEIN, M.D.
and
THEODORE T. STONE, Ph.D., M.D.
CHICAGO

While completing an exhaustive study of Huntington's chorea from the genealogical, sociological, clinical, pathological, and laboratory standpoints, it occurred to us that the present status of the disease in the state of Illinois as a whole, might be of interest to the medical profession.

This rare, chronic, progressive, degenerative, familial and hereditary affection was first described completely on April 13, 1872, by George Huntington,[1] whose name was given to the disease. Prior to that time the condition had been referred to as "magrums," "mad staggers," and "fidgets." The first definite reference to the disease found in the literature is contained in an article by Dr. C. O. Waters,[2] a clergyman-physician who wrote about it to Professor Dunglisan on May 5, 1841, under the name of "magrums," for publication in the latter's Medical Practice. Prior to that time descriptions of chorea had appeared, but had referred essentially to chorea major, the hysterical form of the disease which had prevailed during the middle ages in epidemic form, and Sydenham's chorea which was described by Thomas Sydenham in 1686. Towards the close of the 18th century, during the period in which revolutionary changes in psychiatric practice were initiated by Pinel, and followed up by Georget, Esquirol, Heinroth and other famous pioneers of that period, a tendency to the descriptive and nosological approach was noted, and at that time various vague descriptions of choreiform disorders associated with dementia might very well have been amongst the earliest references to Huntington's chorea. Some fifty years later interest was centered on the disease for the first time in the Long Island-Connecticut district, and studies of this condition have therefore constituted an interesting chapter in the history of early American medicine. Since Huntington's thesis appeared, about five hundred papers have been published dealing with one or more aspects of the affection. Although several have been concerned with the social aspects of the disease, the earliest in the English medical literature appearing in 1904, only one[3] has attempted to consider Huntington's chorea from the standpoint of its incidence and significance in a large civic group in the United States. The earliest papers which were published, however, were concerned essentially with the genealogical and geographical aspects of the affection. The latter has been traced to an original Connecticut source in this country, though at about the same time colonies established on Long Island were found to have given rise to cases of Huntington's chorea also. Vessie[4] was able to trace these first American cases to Rures, Suffolk, England, the affected individuals having arrived in the Winthrop fleet.

In 1915 and 1916 the impressive work by Davenport[5, 6] and his workers appeared, tracing the disease in four family groups with 962 choreics among 3,000 odd relatives; he found that a half dozen individuals, including three brothers who had immigrated to America in the early part of the 17th century, were responsible for the nucleus which gave rise to these choreics. From the Connecticut and Long Island centers emigrations took place to Ohio, Kansas, Oregon, New York State, Canada, Vermont, Massachusetts, New Jersey, Pennsylvania, other parts of Connecticut, Iowa, Nebraska, Wisconsin, California, and Illinois, particularly to Chicago and Joliet, though other parts of the state were also settled.

As one glances through the older biennial reports[7] of the Elgin State Hospital, beginning in 1870, one notes the relative scarcity of the word "chorea." In 1892, when the twelfth biennial report appeared, the classification of mental diseases included such terms as dementia, senile dementia, dementia paralytica, general paresis, and imbecility, in any of which Huntington's chorea might have fallen. The nomenclature represented very little improvement over that of Pinel, appearing almost 100 years before.

In 1894, the words "choreic insanity" were mentioned in connection with one male admission. In 1896 the disease might have fallen into any one of the following classifications in use at that time: primary dementia (dementia

From the Elgin State Hospital, Northwestern University Medical School, Dept. of Nervous and Mental Diseases and Institute for Juvenile Research.

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praecox), secondary dementia, paretic dementia, senile insanity, etc. In 1906 terminal dementia and organic dementia were added; two years later, the term "insanity of coarse brain disease" was used, and at that time dementia praecox was considered a primary mental deterioration included under "Insanities due to diseased metamorphosis of tissues."

In 1910, for the first time, the Elgin reports contained the term "Huntington's Chorea," as one of the focal or diffuse diseases under "organic brain disease," and including also such so-called entities as "aphasia"; senile organic brain disease and general paralysis of the insane completed the organic brain diseases.

In 1913, there were 14,273 mental cases confined in Illinois State Hospitals; in 1933, 26,202 patients resided in the same institutions. In 1922, a statistician's department was established in the state and most of the material cited below was gleaned from reports of that department.[8] Our own data concerning Elgin have been added. The tables are self-explanatory.

Table 1 contains the admissions of choreic patients to the Illinois State Hospitals during the 12-year period from 1922 through 1933. Table 2 reveals the choreic populations during the same period. Table 3 cites the deaths among the choreic population, with the average ages at death.

It is of interest to note that in Illinois there have been more female choreic admissions to hospitals than male, this in spite of Osler's observation that there is a greater tendency, particularly in certain families, for males to be affected. Most other observers have noted that the sexes are involved equally.

The choreic populations have remained fairly constant from year to year, and one can undoubtedly explain this constancy by the fact that a similar number of cases are admitted annually, while an almost identical number expire each year. Certainly there appears to be no decline in the number of cases in Illinois State Hospitals; indeed the figures would indicate a slight increase, if anything, for the past two years.

Statistical studies regarding the environment of these patients reveal the fact that 84% of the first admissions and 71% of the re-admissions have been from urban communities, with 16% of first admissions and 29% of re-admissions from rural districts.

Since 1900, an arbitrary year which we have adopted because clinical and anamnestic material was quite meager before that time, about 45,000 patients have been admitted to the Elgin State Hospital, including fifty-five cases of Huntington's chorea. Thirty-nine of these cases were typical in every respect, presenting positive family histories of the disease; sixteen offered no definite positive heredity or only a vague one, but were typical from the clinical standpoint. Twenty-nine patients expired at Elgin; six were transferred to other Illinois institutions, five of them expiring there; four were paroled and unaccounted for afterwards; one was deported to another state; ten are now residing at the hospital.

We have completed genealogical studies of most of the Elgin cases[9] and have traced ten family groups, representing 17 or almost half of the cases, with a positive history of heredity. Though several represent old American families which have emigrated from New York, Ohio, and Pennsylvania, most of the cases consist of recent European immigrants who have come over in large numbers to increase the choreic and potentially choreic population. Many of the family trees represent four and five generations of choreics. Occasionally the law of anticipation is illustrated, when in succeeding generations, particularly in cases where interbreeding of neuropathically and psychopathically tainted stock has occurred, the chorea comes on at increasingly earlier age levels. Table 4 discloses the various races and nationalities represented in the Illinois state hospitals as a whole and in the Elgin group of cases. In addition to the obvious fact that practically no national group is exempt from the disease, one is struck by the large number of German cases in a state which is not particularly noted for a large general German population.

Of the 86 cases admitted to Illinois state hospitals from 1923 through 1933, 75% were, or had been married at the time of their admission to the hospitals, while only 25% were single. The sociological importance of these data is significant and illustrative also of the fact that "anticipation" is unfortunately the exception to the rule ordinarily. In the past all efforts to trace the disease to an original source have proved unsuccessful; from all indications the

"taint" must go back indefinitely, possibly for centuries. Were anticipation the rule, the disease would undoubtedly have been extinct because the affection would have eventually manifest itself early enough to prevent marriage and further breeding of choreics.

Table V gives the ages of the choreics at the time of their admissions to Illinois State Hospitals and also adds the age of onset of symptoms in the Elgin group of cases. It would appear that the fifth decade remains the most common period for both onset of symptoms and hospitalization. Unfortunately, in relatively few cases do the choreic symptoms commence sufficiently early to preclude marriage on their basis alone. The larger incidence of single males in the group is perhaps explained by the well-known phenomenon that women ordinarily marry younger than men.

We shall not attempt to anlyze the tables or their significance from a clinical or genealogical standpoint. Our other papers have gone into these matters in detail; it is merely our purpose to offer a bird's-eye view of the present day status of Huntington's chorea in our state. That it continues to offer a social and eugenic problem is obvious. Table VI reveals the choreic population in our state hospitals, with the addition of the Oak Forest Infirmary in Cook County, as of January 1, 1937; these figures do not include the many early cases which are being treated in various clinics, or not at all. They are deceptive also because they do not illustrate the fact that a great many of the choreics are brought into our state hospitals as a last resort, when almost in a terminal state, expiring within a short period of time. Statistics regarding the hospital life of the choreic patients reveal the fact that most of them died within a few months to several years. In the meantime, their progeny, many of whom are potentially choreic, for the disease is regarded as an inherited disorder which appears to affect a larger percentage of individuals than any other, are left to carry on. Often intermarriage occurs with alcoholic, feeble-minded, or otherwise delinquent family stocks, with the resultant production of biotypes which are even more dangerous, eugenically speaking, than the pure choreics. Many of our rural cases have been contributed from certain centers in various counties in the state, one near Elgin, another near Jacksonville, a third near Peoria, etc. These families intermarry and frequently perpetuate such choreic communities.

Davenport[5, 6] has emphasized the importance of selecting against choreics in marriage. In 1916 he speculated whether chorea was dying out slowly, or whether it appeared to be continuing unabated, so far as incidence was concerned. He felt that careful investigations of the family histories of immigrants offered the only other possible method of approach to the problem of curbing the menace of such an incidious progressive long-lasting incurable affection. The recent furor created over sterilization might well have beneficial results in the approach to the chorea problem. Again, however, an obstacle is presented in the fact that a few of the children of choreic parents not infrequently escape untainted, and the relatively late onset of the disease in most family groups would provide an almost insurmountable difficulty unless marriage were curbed in all cases for a time at least.

Summary

1. The choreic state hospital population remains more or less constant from year to year because the number of patients admitted is equal, approximately, to the number that die.

2. Equal numbers of male and female choreics with a positive family history have been admitted to Elgin; for the state of Illinois as a whole it appears that there have been more female than male admissions, though the difference is not very great.

3. The age incidence so far as onset of symptoms is concerned includes every decade up to the ninth, except the first, with the largest number of cases in the fifth.

4. Anticipation as mentioned above occurs occasionally, but is not a constant characteristic of the disease; on the contrary, it appears to be the exception to the rule and is to be expected usually when neuropathic stocks are interbred.

5. Because of the relatively late onset of the disease many of the patients are married, particularly the females, and the eugenic problem is made exceedingly more difficult as a result.

6. The nationalities represented by the Elgin and other Illinois state hospital cases include German, English, Scotch, Irish, Slavonic, Scandinavian, Luthuanian, Italian, Jewish, and Negro groups, with many mixtures as well. There is a surprising number of Germans in our cases.

7. About four times as many patients are admitted from urban districts as from rural.

8. Regular choreic centers have been noted in various counties in the state.

9. Although contributing only .1 per cent. to .2 per cent. of the general state hospital population in Illinois, Huntington's chorea presents a chronic problem from the social and psychiatric standpoints, offering no practical prospects of solution at this time.

43 E. Ohio St.

30 N. Michigan.

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TABLE 1. Admissions—Huntington's Chorea in Illinois State Hospitals

Year	First Admissions Male	First Admissions Female	Re-admissions Male	Re-admissions Female
1922	4	5	1	2
1923	2	5	3	1
1924	5	4	2	1
1925	4	6	1	1
1926	4	5	0	0
1927	4	3	1	1
1928	6	5	2	0
1929	2	3	2	2
1930	1	7	2	2
1931	2	2	1	2
1932	6	3	0	1
1933	3	4	0	0
Total	43	52	15	13

TABLE 2. Total—Huntington's Chorea Cases in Illinois State Hospitals

Year	Male	Female	Total
1923	15	19	34
1924	16	23	39
1925	15	24	39
1926	11	17	28
1927	17	19	36
1928	19	17	36
1929	14	17	31
1930	14	17	31
1931	11	16	27
1932	..	..	32
1933	..	..	41
March 15, 1936	..	..	40
January 1, 1937	..	..	45

TABLE 3. Deaths—Huntington's Chorea in Illinois State Hospitals

Year	Male	Female	Total	Average Age Male	Average Age Female
1922	6	4	10	....	....
1923	8	4	12	48.00	48.20
1924	4	2	6	59.50	60.00
1925	3	6	9	51.60	56.10
1926	7	5	12	56.40	56.40
1927	4	3	7	56.20	62.60
1928	4	8	12	58.25	51.12
1929	3	2	5	55.00	51.00
1930	3	4	7	50.30	48.20
1931	5	6	11	48.60	52.10
1932	4	2	6	48.70	59.00
1933	1	4	5	48.00	44.25
Totals	52	50	102	53.195	53.687

TABLE 4. Races—Huntington's Chorea Cases in Illinois State Hospitals—First Admissions

	German M	German F	English M	English F	Scotch M	Scotch F	Irish M	Irish F	Slav M	Slav F	Scand M	Scand F	Lith M	Lith F	Ital M	Ital F	Mixed M	Mixed F	Unasc. M	Unasc. F	Total
1923	1	..	..	2	..	1	..	..	..	..	..	..	..	..	..	..	1	2	..	..	7
1924	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	2	..	2	9
1925	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4	..	1	10
1926	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	4	..	1	9
1927	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	..	2	7
1928	1	..	..	..	1	..	1	..	1	2	..	1	..	..	..	..	2	2	..	..	11
1929	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	2	..	..	5
1930	..	1	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	3	..	2	8
1931	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	4
1932	..	1	..	..	1	..	..	..	..	..	1	..	1	..	..	..	2	2	1	..	9
1933	..	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	1	7
Total	7	7	..	2	2	1	1	..	4	2	1	2	1	..	1	..	20	23	2	10	86

Races—Elgin Cases of Huntington's Chorea

	German	English	Swedish	Norwegian	Italian	Colored	Jewish	Polish	Bohemian	Mixed	Unasc.	Total
Pos. Hered.	11	2	3	3	1	2	1	..	1	5	10	39
Neg. Hered.	2	1	1	..	..	0	1	1	1	1	8	16
Totals	13	3	4	3	1	2	2	1	2	6	18	55

TABLE 5. Ages—Huntington's Chorea Cases in Illinois State Hospitals—First Admissions

	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 up
1923	..	..	..	1	2	1	1	1	1	..	..
1924	..	..	..	..	3	..	2	2	1	..	1
1925	1	..	..	2	1	1	1	2	1	..	1
1926	..	..	2	..	1	..	3	1	2	..	..
1927	..	..	..	1	1	2	1	1	1	..	..
1928	..	..	..	2	2	2	2	..	1	..	2
1929	..	1	2	..	1	..	1	..	..	..	..
1930	..	1	1	2	..	1	2	..	1	..	..
1931	..	..	..	..	1	1	..	..	..	..	2
1932	..	..	..	..	1	1	..	3	1	1	..
1933	..	..	..	..	1	1	1	1	2	..	..
Totals	1	2	5	8	14	10	14	11	11	1	6

Ages—Elgin Cases of Huntington's Chorea

	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70 up	Unasc.	Tot.
Onset Pos. H.	1	1	4	3	7	7	8	5	1	..	..	..	2	39
Adm. Pos. H.	..	1	..	2	1	5	13	8	4	3	1	1	..	39
Onset Neg. H.	..	..	1	5	..	2	4	1	1	2	..	..	..	16
Adm. Neg. H.	..	..	..	1	2	1	2	5	1	3	1	..	..	16
Totals	1	2	5	11	10	15	27	19	7	8	2	1	2	..

TABLE 6. Huntington's Chorea in State Hospitals in Illinois as of January 1, 1937

Hospital	Male	Female	Unasc.	Grand Total
Elgin	4	6	0	10
Jacksonville	2	5	1	8
Anna	0	0	1	1
East Moline	2	3	0	5
Peoria	1	3	0	4
Chester	0	0	0	0
Kankakee	6	4	0	10
Chicago	1	1	0	2
Alton	1	2	0	3
Manteno	0	1	0	1
Dixon	0	0	0	0
Lincoln	0	1	0	..
Total	17	26	2	45

(Oak Forest Infirmary, Cook County—1 Case)

DISCUSSION

Francis J. Gerty (Chicago): Mr. Chairman, Ladies and Gentlemen: The interesting thing about this paper to me is this: the very great difficulty we encounter when we set out to study what appears to be a very simple problem. Huntington's chorea is an organic disease. The symptoms are quite characteristic and we recognize it as being definitely hereditary. That would seem to indicate that it would not be difficult to trace these cases, to study them and really find out something about them. There is a general disposition to believe that a great many mental conditions are hereditary. Here we have a condition which seems fairly simple to study from the standpoint of heredity and yet the difficulties have been very great. The terminology alone causes us trouble.

One would think that Huntington's chorea would run back to the beginning of scientific medical records as a sort of red ribbon easily picked out. Yet even within the past generation, within the span of most of our lives, cases of this kind were not recognized. Consequently it helps us to appreciate the difficulties we are likely to have with studies of heredity in conditions which are less outspokenly hereditary and which may not be hereditary at all. My own experience corresponds quite well with that of the authors of this paper.

In the psychopathic hospital where the admission rate has been five to six thousand patients per year during the past ten years, we average five to seven chorea patients of this type per year. It is not always easy to secure the hereditary history. I note from these statistics that in thirty-nine cases they could find hereditary history and in sixteen they could not. That, I think, probably represents a rather high percentage in which the hereditary history could be definitely discovered.

Repeatedly I have seen patients who clinically suffered from Huntington's chorea. It was impossible to get the family history. It is very difficult to gather information from these patients as to the onset of the condition. They tend to deny the movements that they exhibit to the world long after they are plainly manifest.

In our hereditary studies we should study the latter end of human life with as great care as we study the beginning of human life. It is possible that many other organic conditions, if studied in this way, will reveal a hereditary factor.

Roland P. Mackay (Chicago): Does the predominance of German derivation in these patients correspond to a similar predominance of German derivation in the population in Illinois as a whole?

Dr. Falstein (Closing the discussion): I wish to thank Dr. Gerty for his remarks. In response to Dr. Mackay's question. I might say it has been our impression that Illinois is not particularly noted as a state with a predominantly German population as compared with Wisconsin, for example. There have been studies made elsewhere, but we were particularly struck with this predominance in a state not noted for a large German population. I do not have the exact statistics, however, regarding the numbers of the various national groups in the general population of the state.

THE PRESENT STATUS OF THE SHOCK TREATMENT OF THE "FUNCTIONAL" PSYCHOSES

ABRAHAM A. LOW, M.D.
Assistant Director, Psychiatric Institute of the University of Illinois
CHICAGO

The Insulin Shock Treatment. The claim is made that the shock treatments have materially increased the recovery rate in dementia praecox. Sakel[1] the originator of the insulin shock treatment, was able to discharge as fully recovered 69% of those patients who received the insulin treatment within six months after their breakdown. In patients whose disease had lasted more than six months the recovery rate was only 18%. If the disease had lasted two years or more the number of recoveries was negligible. The combined recovery rate of all treated cases, regardless of the duration of the disease, was 47.7%. Schmidt and Bersot[2] summarized, in 1937, the combined experience of the Swiss State Hospitals and, in a series of 495 insulin-treated patients, reported somewhat similar results. The combined recovery rate was 40.4%. Mueller,[3] Wortis,[4] Young and Boucek,[5] Lemke,[6] Kueppers,[7] Ederle[8] and Ross[9] were more conservative in their estimates but agreed that "we have obtained a potent agent to deal with dementia praecox" (Ross). Our own experience with a series of schizophrenic patients treated at the Psychiatric Institute of the University of Illinois coincides with that of the more conservative authors. We obtained 37.5% full recoveries and 12.5% social recoveries in patients treated within the first six months of their breakdown. Our combined recovery rate of all insulin-treated cases (recent and old) was, however, no more than 24.1% full recoveries and 11.1% social recoveries (table 1). Obviously in order to secure optimal results treatment must be given during the early stage of the disease.

By full recovery is meant a condition in which the patient has obtained good insight and resumed his occupation in the community. The term "social recovery" implies that while insight is good, work has not been resumed, or work was resumed but insight in missing. One of our "socially recovered" patients, e.g., is occupied and doing satisfactory work but still thinks a mysterious power is influencing her. Another patient has dropped his delusions but cannot be induced to look for a position.

The Metrazol Shock Treatment. In 1935, Meduna[10, 11] produced convulsions by means of intravenous injection of a 10% solution of metrazol. His therapeutic results paralleled closely those obtained with the hypoglycemic shock produced by insulin. He obtained upward of 80% remissions in patients with less than six months' duration of the disease. Like Sakel he insisted that the earlier the treatment is instituted the better results can be expected. Broussau,[12] Friedman,[13] Finkelman[14] and others made similar claims. The results of our own series of 69 patients with dementia praecox are less striking than reported in the literature. The recoveries secured in patients with less than six months' duration of the disease amounted to slightly more than 40%. Our combined remission rate in both recent and old cases was 23.3% full recoveries and 8.7% social recoveries (table 1).

Therapeutic Versus Spontaneous Remissions. It is well known that a number of patients with dementia praecox tend to recover spontaneously. Mayer-Gross[15] studied 294 schizophrenic patients 15 years after discharge from the Heidelberg clinic and found 30% well adjusted and working. Fuller[16] reported on 242 schizophrenic patients investigated ten years after discharge from the state hospitals of New York. About 35% were continuously adjusted in the community. Braatoy[17] obtained a remission rate of about 20% in a series of over 200 cases of dementia praecox re-examined five to six years after discharge from the Oslo clinic. Lemke[18] studied 132 patients about two years after discharge and found 14% only adjusted and working. Of 128 schizophrenic patients of the Psychiatric Institute of the University of Illinois who were discharged during the past five to six years 17.2% were adjusted and working in the community (table 2).

From this brief survey of the literature it is obvious that the spontaneous remission rate varies between about 15 and 35%. An analysis of the above reports indicates that those authors who investigated their cases from 10 to 15 years after discharge obtained higher remission rates than those who made their investigations after a shorter interval. This fact will appear less strange if the spontaneous remission curve is

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traced over a number of years. Fuller[19] has shown that the curve rises to its highest peak during the first year and henceforth falls steeply and progressively during the subsequent years. According to his tables 13.9% of the patients recovered during the first year, 3.9% during the second, 1.8% during the third, etc. In the 10th year only 0.4% recovered. After 16 years, the combined spontaneous recovery rate among 2,481 patients with dementia praecox was 25.0%. It is evident that although only a small percentage was added yearly after the first year, and fractional percentages only after the third year, the sum total of spontaneous remissions nevertheless continued to increase with the lapse of time. If this yearly growth of the spontaneous remission rate is considered the discrepancy between the percentages of the various authors finds its explanation. Lemke[18] who investigated recently discharged patients was bound to find fewer of them recovered than Mayer-Gross[15] and Fuller[16] who studied their series of cases from 10 to 15 years after discharge.

On the basis of our knowledge concerning the yearly growth of the spontaneous remission rate it would be unfair to compare the therapeutic recoveries obtained after shock treatment with those obtained in an investigation of patients 10 or 15 years after discharge. The shock-treated patients are recent discharges and can only be compared to a group of the same kind. Lemke's[18] and Fuller's[19] series are the only ones in the literature that permit comparison. Lemke's patients were discharged during the two years preceding the investigation, and Fuller made a year by year tabulation for 16 successive yearly discharges. The remission rates after two years were 14.0% and 17.8% respectively. The series studied at the Psychiatric Institute concerned 128 patients who had been discharged from one to six years prior to investigation and might still lend itself for comparison. The remission rate was here 17.2% (table 2). Plainly, Sakel's combined recovery rate of 47.7% and the Swiss rate of 40.4% are palpably superior to the expected spontaneous remission rate. If Sakel's and Schmidt-Bersot's figures are accepted, the shock treatments yield a recovery rate of from 40 to 45% as against one of 15 to 20% in untreated patients.

That the post-therapeutic remission rates obtained at the Psychiatric Institute are so strikingly lower than those reported by the Vienna and Swiss investigators is explained, in part at least, by our perhaps too stringent criteria for "recoveries." As will be pointed out later, in order to be rated as recovered, our discharged patients are not only required to have regained insight and to resume unsupervised occupations in the community; they must, in addition, maintain regular monthly contact with the staff physicians. If the latter requirement is not fulfilled, they are rated as "socially recovered."

Single Versus Combined Shock Treatment. As mentioned, the rates for full recoveries at the Psychiatric Institute, both in the metrazol and the insulin series, was about 40% in recent cases. The combined recovery rates for both recent and old cases were about 24%. This was an advance over the period preceding the shock treatments when the combined recovery rate was approximately 17%. But the advance amounted to seven per cent. only. The question arose whether the combined recovery rate could not be further increased by more intensive treatment. As a result of this consideration the rotation treatment was introduced in January, 1937. Within the rotation scheme a patient was first placed on one of the shock treatments, let us say, insulin. If he did not recover he was then given metrazol. If the second treatment proved unsuccessful again a third course of treatment was given with pyrexia. Finally, a fourth treatment was administered, usually narcosis with sodium amytal, or a repetition of the metrazol shock. To date 81 schizophrenic patients were rotated through the four stages. The results, as analyzed in table 3, show that of 81 patients treated in the first stage 19 made a full recovery and eight a social recovery. At the end of the fourth stage the full recoveries had increased from 19 to 32, or from 23.5% to 39.5%, the social recoveries from eight to 16, or from 9.9% to 19.7%.

The literature contains a few reports in which patients were placed first on metrazol and then on insulin and vice versa. Angyal and Gyarfas[20] and other authors reported occasional combined treatments. But thus far systematic rotation was only practiced at the Psychiatric Institute. Since we were able, by means of multiple treatment, to increase the remission rate from 23.5% to 39.5% we feel that rotation from treatment to treatment is the method of choice.

Shock Treatments in Conditions Other Than Dementia Praecox. Both the insulin and metrazol shocks are plainly nonspecific treatments. Hence, they can be logically applied to any condition which lacks a specific etiology. At the Psychiatric Institute the treatments are administered in all conditions which do not fall into the group of the organic brain diseases (dementia paralytica, senile psychosis, arteriosclerosis, etc.). In our experience, both the manic and the depressed patients respond well to the metrazol treatment. In many instances the depression or the manic excitement are cut short after a few paroxysms. In some patients a single convulsion effected a dramatic emergence from the manic or depressed episode. That the attack is materially shortened by the metrazol treatment is clearly shown by a comparative study of depressive patients with regard to the length of stay in the hospital in successive years. During the years 1934, 1935 and 1936, 39 manic and depressed patients were discharged from the Psychiatric Institute as recovered. Their average length of hospitalization was 148 days. In 1937, the number of manic-depressive patients discharged as recovered after shock treatment totaled 16. Their average length of hospitalization was 42 days.

We treated two patients with alcoholism, one of seven years', the other of three years' duration. Both had spent the past few years in state hospitals, and their brief periods of tentative parole were invariably terminated by alcoholic excesses. The one is at present continually at work since eight months, the other since five months. Both are now consistent abstainers.

We have also treated four severe psychoneurotic patients with good success. All were of the psychasthenic type and sufficiently maladjusted to warrant commitment. They made a good recovery after a few metrazol convulsions. One of the patients relapsed after six months of good adjustment. The remaining three are at work and doing well for now more than six months.

Six patients with postencephalitic Parkinsonism treated with metrazol showed no demonstrable improvement.

Dangers and Complications. The literature shows that of 1,200 patients treated with insulin in this country and abroad, 14 died during treatment. The percentage is 1.2. Of 544 patients treated with metrazol, one died. The percentage is 0.4. The inference is that mortality is negligible for metrazol and relatively low for insulin.

The metrazol paroxysm has a tendency to produce dislocations and, at times, fractures. In our series, three patients suffered an avulsion of the greater tuberosity of the humerus. One patient sustained a fracture of the humerus. Mandibular dislocations were frequent and easily corrected. One patient developed a dislocation of the shoulder.

While the complications and dangers of the metrazol paroxysm can be disregarded, those arising from the insulin hypoglycemia demand close attention. During the treatment the patient must be carefully watched. Emergencies may arise which require prompt interference. Laryngeal spasm, Cheyne Stokes breathing, signs of impending cardiac collapse are by no means infrequent. We had several such alarming situations but were able to cope with them by the instant interruption of the shock through glucose. In a few instances the glucose had to be given by the intravenous route. Usually administration by means of the nasal tube was possible and effective.

Even after the hypoglycemia has been interrupted by the administration of sugar, complications may still arise in the afternoon when the patient is removed from the insulin room. The much dreaded "after shock" must be looked for and adequately treated. It happens occasionally that a patient goes into coma several hours after emerging from the hypoglycemia. This complication may be overlooked if the "after shock" appears after retiring.

At times a patient cannot be aroused from the hypoglycemic shock despite adequate doses of sugar given by nasal tube or intravenously. Instances are reported in the literature in which patients could not be awakened for fully two or three weeks.

In view of these dangers and complications a note of warning is in place against attempts to give the insulin shock treatment without adequate experience.

Quality and Permanency of Recoveries. The definition of the terms "full recovery" and "social recovery" is easy enough. The criteria are insight and resumption of unsupervised work in the community. In a full recovery both of these criteria must be fulfilled, and in the social re-

covery, one of them only. But ease of definition does not necessarily imply ease of accomplishment. Whether a patient has recovered, fully or socially, at the time of discharge can be established by the simple expedient of examining him. But whether and how long a patient stays recovered can only be determined if a followup system is in working operation. Except for Lemke[6] the authors who reported post-therapeutic recovery rates did not supply the data of their followup studies. Presumably such studies were not made or could not be made. Indeed, it is difficult to induce a patient to return for check-ups. Little knowledge is, therefore, available about the permanency of recoveries, and the striking results obtained by the more optimistic workers must at present be considered as initial results.

At the Psychiatric Institute we paid much attention to the problem of the followup investigation. The final solution was the formation of an organization of our former patients. The organization has three main objectives: 1. to promote the economic interests of the patients; 2. to engage in an educational campaign for the purpose of changing the community's attitude to mental patients; 3. to establish a close contact between former patients and the staff physicians. The organization holds twice a month regular meetings at the hospital to which all discharged patients are invited. In the course of these gatherings we have obtained as accurate information as is possible on the quality of recovery. Several patients who were classified as fully recovered after discharge were found to have relapsed into a condition of mere social recovery. We claim that due to our close contact with our discharged patients our figures on recovery rates are trustworthy.

To date, of 32 patients classified as fully recovered three maintained their status for more than one year, nine for more than six months, eight for more than three months, 12 for less than three months.

Of the 16 patients who are rated as socially recovered, seven have thus far maintained their status for more than six months, eight for more than three months and one for less than three months.

Conclusions

1. The metrazol and insulin treatments of dementia praecox result in a combined full and social recovery rate which is significantly higher than the results obtained in the spontaneous remissions of previous years, especially if metrazol and insulin are combined in the form of the so-called "rotating treatment," with fever and narcosis.

2. Metrazol and insulin lend themselves to the treatment of conditions other than dementia praecox.

3. Recovery rates are reliable only if an adequate followup system is in operation for the purpose of studying the adjustment of patients after discharge.

4. Since the highest recovery rates are secured if the patient is treated within six months after the breakdown, early treatment is imperative.

30 N. Michigan Ave.

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TABLE 1.

Initial and Final Recovery Rates in Patients Treated with Insulin, Metrazol and Combined (Rotating) Therapy.

	No. Cases	Initial Recoveries	%	Final Full Recoveries	%	Final Social Recoveries	%
1. INSULIN							
1-6 mos.	16	9	56.3	6	37.5	2	12.5
6 mos.-1½ yrs.	16	3	18.8	2	12.5	2	12.5
Over 1½ yrs.	22	7	31.8	5	22.7	2	9.1
Total	54	19	35.2	13	24.1	6	11.1
2. METRAZOL							
1-6 mos.	22	15	68.2	9	40.9	5	22.7
6 mos.-1½ yrs.	23	10	43.5	6	26.1	1	4.3
Over 1½ yrs.	24	2	8.3	1	4.2	..	....
Total	69	27	39.1	16	23.3	6	8.7
3. COMBINED ROTATION							
1-6 mos.	29	21	72.4	15	51.7	8	27.6
6 mos.-½ yrs.	23	12	52.2	10	43.5	3	13.0
Over 1½ yrs.	29	8	27.6	7	24.1	5	17.2
Total	81	41	50.6	32	39.5	16	19.7

TABLE 2.

Initial and Final Recovery Rates in 128 Untreated Schizophrenic Patients.

	No. Cases	Full Recoveries	%	Social Recoveries	%
1-6 mos.	29	9	31.0	4	13.8
6 mos.-1½ yrs.	29	7	24.1	3	10.3
Over 1½ yrs.	70	6	8.6	4	5.7
Total	128	22	17.2	11	8.6

TABLE 3.

Recovery Rates of 81 Schizophrenic Patients Rotated in Four Stages Through Insulin, Metrazol, Fever and Narcosis

	No. Cases	Full Recoveries	Per Cent	Social Recoveries	Per Cent	Combined Favorable Results: No. Cases	Per Cent
First Stage	81	19	23.5	8	9.9	27	33.4
Second Stage	50	8	16.0	5	10.0	13	26.0
Third Stage	24	4	16.7	2	8.3	6	25.0
Fourth Stage	6	1	16.7	1	16.7	2	33.3
Combined Results of Total Rotation	81	32	39.5	16	19.7	48	59.2

DISCUSSION

Dr. S. N. Clark, Jacksonville: Dr. Low has given us a very admirable review of the metrazol and insulin treatments in functional psychoses, and I can only refer to one or two angles. Certainly one feels that these reports are very promising. The combined treatment of which he spoke is new to me but his figures justify that sort of treatment. The early reports in regard to the treatment of manic depressives with insulin were not very encouraging and I was glad to hear Dr. Low tell of the results being obtained in that condition with metrazol. His further results in regard to psychoneuroses and chronic alcoholism will be awaited with a great deal of interest. Any treatment that does not go back more than five years must be considered in a trial state and that is particularly true of treatment in psychoses for obvious reasons.

Dr. Low has been frank in speaking of the dangers of the treatment. It seems like drastic treatment to bring about a convulsion or to force the blood sugar down below normal levels. In one of our cases the blood sugar was 91 mg. the morning before treatment and dropped to 38 mg. one hour after 90 units of insulin were given. Two hours later it went to a level too low to read; three hours later it was 26 mg., and one hour after treatment was terminated with glucose the level was 150 mg. Altogether, I think that the dangers are inconsiderable in view of the improvement that has been obtained in this treatment.

We should all like to know why metrazol and insulin produce the effects they do. Quite a lot has been said about the subject. I think we have to take most statements as being surmise, at least that is my opinion. In other lines, however, it has been found many times that a treatment which is empiric and which has been given with decidedly good results, sooner or later leads to that treatment being placed on a rational basis. We hope that that will be true in this case and that favorable results obtained will lead to greater knowledge of the mechanism of the psychoses. One may even hope that instead of merely treating these cases it may be possible to prevent the psychosis.

Dr. J. V. Edlin, Chicago: At the Chicago State Hospital we have treated more than 450 patients with metrazol and a smaller group with insulin. These were not selected patients. It is surprising that with so large a number of patients, our percentages were relatively the same as those offered by Dr. Low. One thing that stood out was the length of time we have found it necessary to keep a manic depressive in the hospital. This was almost the same to the day as Dr. Low's figures.

In addition to the dangers and complications offered by Dr. Low, I should like to add two patients who sustained lung abscessses while receiving insulin, because of the frequent nasal tube feedings. With metrazol, in our first 100 cases four received fractures and dislocations. In our next 360 cases with metrazol, due to the improvement in technic and care of the patient, we only sustained two trivial tears of the supraspinatus muscle.

In studying the permanency of recovery, we are keeping in close contact with the patient.

One factor which we feel is important is that before this type of treatment was instituted, it was noted in our institution that only the epileptic patients had a tendency to group together. Since patients have been receiving shock therapy, those who have recovered or are recovering are beginning to gather into groups.

Another thing that we must not overlook is that prior to the shock therapy, at our hospital three to five patients died every month. They died at the time of their admission because of exhaustion in the course of the psychosis. Since metrazol was introduced we have not lost a single patient.

AN ATTEMPT AT THE LABORATORY CONTROL OF SCARLET FEVER BY HEMOLYTIC STREPTOCOCCUS CULTURES

MARTIN H. SEIFERT, PH. G., B.S., M.D.
Health Officer
WILMETTE, ILLINOIS

It seems necessary in this discussion to review the work of the first years covered in this paper by the essayist at the Illinois Convention of Health Officers in December, 1935. In that report were stated the fundamental reasons for beginning the work, and the justification for feeling that it was worth while.

Since the etiolgy of scarlet fever, from the standpoint of bacteriology, is generally recognized to be a beta hemolytie streptococcus, it seemed to me that it was gross negligence not to make use of this knowledge in an attempt to control the disease, particularly when the consequences of infection may be as serious as those resulting from scarlet fever. According to Bailey[1] the general mortality in the state of Illinois has risen from 3.8 per 100,000 covering 1928 to 1935 inclusive, to a mortality of 4.2 per 100,000 for the years 1933 to 1935. This shows a mortality ten and a half times that of poliomyelitis, 1.7 times that of whooping cough, and two times that of diphtheria. The average for the state of Illinois is an incidence of 300 cases per 100,000 population. Bailey[1] feels also that a rational quarantine for scarlet fever would be one which required negative cultures for release of patients, rather than a definite period of time.

Mortality records give only an inkling as to the seriousness of the infection, since by far a greater number than those listed as dying of scarlet fever will go through many years of life handicapped because of its complications. A sound basis for the control of scarlet fever dates back only to the work of Drs. George F. and Gladys Dick,[2] published in 1921, 1923 and 1924, when they announced the production of scarlet fever and the satisfaction of Koch's laws in regard to its causation by certain strains of hemolytic streptococci. It seems necessary then to determine the incidence of beta hemolytic streptococci in the throats of patients, contrasts, healthy individuals and those with infections other than scarlet fever.

Burgin and Higgins[3] in 1934 found among patients at the Massachusetts eye and ear infirmary an incidence of 43.8%. Cole and MacCallum[4] in 1918 found an incidence of 11.4% in the throats of patients in measles wards in an army camp. Levy and Alexander[5] found 77.1% in similar groups and 14.8% in new men coming into service. Brown[6] after reviewing in 1935 the work of Kuroy on 1,559 cultures of healthy people in the presence of scarlet fever, reported an incidence of 4.2 to 8.1%. Richardson and Knight[7] in 1929 concluded that after ruling out other upper respiratory infections, the incidence of hemolytic streptococci was only slightly higher than that of diphtheria bacilli. Reichenmiller[8] in 1926 found 7.7% of children in a cloister in which scarlet fever had occurred showed positive thoat cultures. The total average for all of these cases was about 10% positive. Only one in 17 employees of the cloister was found positive, and this woman's husband came down with scarlet fever within a few days. Burgus[9] reported in 1928 10% positive cultures on clinic patients. Mayer and Lowenberg[10] in 1929 found 60% of 59 physicians and nurses and 57 hospital employees showing positive cultures. Peacock, Werner and Colwell[11] in 1932 reported an incidence of 28% in the nurses at Children's Memorial Hospital in the presence of an epidemic. Bernhardt[12] in 1928 reported the culturing of children in a room with four cases of scarlet fever, giving an incidence of 33% positive throats. Lane and Beckler[13] in 1929 cultured two schools and found an average incidence of positive cultures of 15%. Burgus[9] cultured 200 children who showed an incidence of 12½%. Pilot and Davis[14] reported 61% positive cultures from the tonsils of children coming in for tonsillectomy, while they obtained positive cultures in 97% of tonsil crypts after removal of tonsils. Seasonal variations in incidence have been reported by many. Pilot, Tumpeer, Helmholz, and Davis have considered the organisms normal flora of human throats. Ruediger, Cumming, Spruit and Lynch, Blandon, Burhans and Hunter, Burgin and Higgins, and Blake have

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considered the organisms pathological. Bailey[1] states that in a recent survey in Illinois the organisms in 90% of positive throats were demonstrated to be capable of producing scarlet fever, and produced a toxin which was neutralized by the commercial scarlet fever antitoxins. C. M. Burpee[15] reported a variation from 0 to 45% in the incidence of positive cultures in the throats of patients admitted to a pediatrics word.

My reason for referring rather extensively to the literature is my feeling that it is misleading. Most of the work which supposedly determines the incidence of hemolytic streptococci in the general population or in normal throats has been done on subjects such as hospital patients; institutional contacts of scarlet fever patients; army men at the time when hemolytic streptococcus infections were more prevalent than probably at any other time in the world's history; and those around hospitals.

I am glad to accept support from Bailey[1] who cites my objections to conclusions from this work. His own work, it seems to me, in which 1,300 grammar school children in Illinois were checked with 284 positives, or a little less than 22%, would come near the incidence in this age group.

Besides the incidence of positive throats naturally one of our major problems for the control of active cases of scarlet fever are those who may be convalescent carriers. Kirkbridge, Wheeler and West[16] in 1930 found 50 of 85 patients positive after 30 days. Gordon and Badger[17] in 1934 concluded that two or three weeks was sufficient quarantine in mild weather, basing their opinion practically altogether on the general incidence of scarlet fever, which has proven itself to be a very variable factor. Hoyne and Bailey[18] in 1934 cited the increase in return cases with the drop of quarantine to three weeks, which occurred in Illinois in 1932. With the four week quarantine 4.2% of released patients were responsible for return cases, whereas with the three-week quarantine, return cases went up to 7%. Only 3% of the patients released on negative cultures were responsible for return cases. Feigin[27] states that six weeks quarantine was not sufficient to prevent the occurrence of return cases. Gasul and Rhoads[19] found positive cultures in 100% of 81 cases of scarlet fever. Agapi[20] obtained 97.7% positive in 173 cases in his series. In our own series of 197 cases from the Wilmette Health department we have been able to isolate the beta hemolytic streptococcus in every instance.

An attempt in my own work has been during the past six years to learn something about the possibilities of laboratory help in the control of scarlet fever, hemolytic streptococcus throats, and carriers of hemolytic streptococci. In doing this we have required two successive negative cultures for the discharge of a patient or a contact. Whenever possible we have cultured the children in school rooms in which cases appeared, and have isolated those in whose throats hemolytic streptococci were found. Murphy[21] of Newport, Rhode Island, required negative cultures for discharge from quarantine, but made no conclusions as to results. Koehler[22] attempted control in Milwaukee by excluding positive cultures from the schools for a period of seven days. This seems to me to be fundamentally wrong, in that positive cultures on school contacts persisted for an average of 13 days in my series, and it seems rational that if contacts are to be excluded they should be excluded for the period during which the cultures are positive, and not for an arbitrary number of days.

Objections to this type of control are listed on the following basis: 1. It would be impossible to carry it out; but we have been able to carry it out in an under-manned, part time health department. 2. That one cannot require the isolation of patients on this basis because of the impracticability of identifying the hemolytic streptococcus of scarlet fever. This objection, I believe, we have nullified in a community where we have a mixed population of under-privileged, over-privileged and average citizens, with a generous sprinkling of Christian Scientists, without a single refusal in 197 cases and several hundred contacts to cooperate with the isolation regardless of the fact that the voluntary nature of their isolation, the impossibility of determining certainly the specificity of the organism found, and the fact that many of them, including many Christian Scientists, were held far longer than the minimum quarantine period required by the state, and none were allowed to be dismissed before the expiration of this period in spite of negative cultures. The only difficulty that I can see in this regard would be lack of intelligence in selling the proposition to the public on the part of the health officer, or lack of coopera-

tion on the part of private physicians, who can ruin any project for public health officers. This again, I believe, is usually the fault of a health worker who has not first sold the local medical group on the project, explained it to them in detail, and asked their cooperation regardless of their possible conflicting beliefs. I must therefore again acknowledge my indebtedness to the physicians of Wilmette, and especially to the pediatricians of the North Shore for their splendid cooperation during these six years, without which my efforts would have been defeated before they had begun to take root.

The total cases in our series was 197 from May 1932 to the present time and significant data regarding these cases are given in table one and two.

TABLE I. SCARLET FEVER CASES

Total cultures 805 on 197 cases (Ave. 4).
Variation in days positive—16 to 83 days.
Permanent positives—6 in 197 or 3%.
Total average 32½ days from onset.

Table 2 shows the arrangement of cases according to days from onset to persistently negative.

TABLE 2. SCARLET FEVER CASES

Total 197 cases.

Under 21 days	23 cases	or 11.7%
Under 28 days	78 cases	or 39.5%
Over 40 days	23 cases	or 11.7%
Over 60 days	12 cases	or 6.0%
Permanent	6 cases	or 3.0%

Significant factors seem to me to be that the average persistence of positive cultures from the onset of the disease in these cases over a period of six years, is 32½ days or 4½ days more than our minimum quarantine period. The permanent positives total only 3% of the total number of cases and hardly seem as high in incidence as the persistent carriers of diphtheria. It is also significant to my mind that of these six permanent positives, three were in one family. The minimum quarantine period in our series covered only 39.5% of cases, but those persisting over 40 and over 60 days were few enough, it seems to me, not to influence the practicability of the method. I have been struck in this work repeatedly by the isolated incidents, which have seemed to me in some ways to be of greater significance than the entire series results. One case which was particularly striking was an instance in which a mother on one of the long cases, in which two children in the family had been isolated with a registered nurse on the third floor of a home, refused, after 70 days of positive cultures, to keep these children isolated from the infant in the family any longer, only to have the infant develop scarlet fever four days after the family was mixed. This seems to me to be adequate proof that the organism in those children's throats was still the beta hemolytic streptococcus of scarlet fever. One other such instance occurred in a case at about 45 days. In the group there was also one return case on a hospital patient, though apparently there was some error in connection with this case. The child was reported as having had two negative cultures, but in reviewing the hospital charts to determine the number of cultures, and the length of time throats persisted positive, the original case in this family was discovered to have shown many, many colonies one day, negative culture the next day, and to have been discharged that day without a second attempt to get a negative. An infant six months old came down with scarlet fever in that family in a few days.

Table 3 lists cultures on family and school contacts.

TABLE 3. SCARLET FEVER CONTACTS

	FAMILY		SCHOOL	
	pos.	neg.	pos.	neg.
Cultures taken	78	70	331	506
Number of contacts represented	..	..	81	369
% Posotive	..	..	18	...

The school contacts here are the only ones requiring further notice. 81 contacts out of 450 were positive, and incidence of 18%. Contacts here are regarded as children in the same room with scarlet fever cases. Again isolated facts seem to me highly significant. The first experience in this line came near the beginning of the work. A preschool child attending a play at one of our parochial schools was discovered to have a full-blown rash upon arriving at home Tuesday afternoon. Friday, Saturday, and Sunday following this episode 12 cases of scarlet fever were reported from that school. The following Monday I saw every child in the school, but cultured only those with some evidence of upper respiratory infection on examination. There were 50 children in this group and all of them were immediately sent home. The next morning it was found that nine of these 50 were positive. The parents of these nine children were notified and it was discovered that one of them already had scarlet fever. A second developed a sore

throat and eight weeks later a broken-down cervical lymph node was opened, from which beta hemolytic streptococci were isolated. That child's sister, who was one of the nine, had a sore throat. The other six were isolated and remained positive from seven to 20 days when they were allowed to return to school. No other cases of scarlet fever developed in that school until the following year. It was also striking that the Sister Superior, when given a list of the pupils with positive cultures, spontaneously remarked that three of those children had sat at either side and in front of the child with the scarlet at the entertainment, and that she had seen two of the others walking into the room with him.

It is also significant to me that in no other instance in which we have cultured a room and excluded positive throats during these six years has there been a subsequent case of scarlet fever. On the other hand four cases have developed that were diagnosed in children already excluded from one to 35 days after isolation. There were others among those isolated who developed sore throats and several who were suspect cases.

TABLE 4. CONTACTS OF SCARLET FEVER

	FAMILY	SCHOOL
Average days to negative	13	14
7 days or less	50%	40%
Over 14 days	33%	40%
Over 30 days	16%	10%
Permanent	4%	10%

Table 4 is self-explanatory and again demonstrates the futility of isolating positive throats for an arbitrary period.

TABLE 5. HEMOLYTIC STREP. THROATS

9 cases—5 to 53 days positive.

7 days or under	2 cases
7-14 days	3 cases
21-30 days	2 cases
14-21 days	1 case
53 days	1 case

Total cultures—42.

Table 5 includes nine cases of hemolytic streptococcus throats, some of which occurred in families in which other patients had scarlet fever, and it seems to me that isolation of these cases generally is more adequate, since it is purely on a culture basis, than the isolation of scarlet fever in general. Bailey[1] feels that the isolation of hemolytic streptococcus throats is one of the important factors in the control of scarlet fever along with the isolation of carriers. Brewer[23] feels as do many others that most of the hemolytic streptococcus infections including streptococcus throats are probably different manifestations of infection by the same organism.

I am still unable to produce an adequate series of cultures from normal patients, but table 6 gives the incidence in 151 people with an incidence of 17.9%.

TABLE 6. NORMAL PATIENTS

or cases of measles, whooping cough, German measles, etc.

Positive	Negative
27	124

17.9% Positive.

I stated in my previous paper[24] on this subject that I did not consider Wilmette a suitable place to attempt active control. Our children go to school in Kenilworth, Winnetka, Evanston, and Chicago. Children from Winnetka, Kenilworth, Glencoe, Niles Center, Glenview, Evanston and Chicago attend our parochial schools. Our theaters are the last ones between Chicago and Highland Park. Our children attend parties in these other communities, and much family shopping in our community is done in Evanston and Chicago. There is therefore a constant mixture of population, and I feel that the question as to whether this type of control would reduce the actual incidence of diagnosed scarlet fever would be possible only if two groups of counties adjacent to each other, east and west, with similar urban and rural distribution of population in two groups, could be carefully checked for several years, one group using the method of culture control, while the other group used arbitrary time quarantine. Table 7 shows the actual incidence of scarlet fever in Wilmette, Evanston[25], Kenilworth and Winnetka[26] from January 1, 1933 to the present time.

TABLE 7. SCARLET FEVER

Actual Cases

YEAR	WILMETTE	EVANSTON	KENILWORTH WINNETKA
1933	20	131	21
1934	48	104	45
1935	47	133	38
1936	16	103	28
1937	46	136	20
1938	14	113	20

It is interesting to note that the low incidence in Wilmette in 1936 was accompanied by very low virulence, and also by a very short time persistence of the organisms. Only one case in 16 persisted over 28 days, and four were negative in 20 days or less. It is also rather remarkable

that it is only in the last two years that we have had any permanently positive throats.

In table 8 the incidence is calculated per 100,000 population for each year, and for the total period.

TABLE 8. SCARLET FEVER CASES

Per 100,000 population.

YEAR	WILMETTE	EVANSTON	KENILWORTH WINNETKA
1933	125*	192	140
1934	300	153*	300
1935	293	195*	253
1936	100*	151	187
1937	287	200	133*
1938	87*	166	173
Total	1190	1060	1150

It becomes immediately apparent that the incidence in Wilmette has not been reduced by our method of control. Three of the years Wilmette has had the lowest incidence, two years Evanston has had the lowest incidence, and one year Kenilworth and Winnetka were low. The total incidence as noted is slightly higher for Wilmette than for either of the other two.

As to culture methods, we have used streaked and poured blood agar plates, with 1 cc. of blood in 15 cc. of standard agar, with peptone, sodium chloride, beef extract, sodium hydroxide and agar, adjusted to a pH. of 7.2 and recognizing as positive only plates showing beta hemolytic streptococci. The help of the technicians at the Evanston Hospital laboratory and the Evanston Health department is acknowledged in this work.

In summarizing:

(1) We have been unable in our location to reduce the incidence of scarlet fever below that of communities adjacent to ours by requiring negative cultures from cases and contacts for release.

(2) We have attempted to determine the average period during which cases of scarlet fever will persist in showing beta hemolytic streptococci in the nose and throat, and have tabulated these according to the time of positive cultures.

(3) We have attempted to isolate family and school contacts of scarlet fever patients on a basis of throat cultures for beta hemolytic streptococci, and have determined the time for which such contacts are likely to persist positive.

(4) We have tabulated the time during which a series of hemolytic streptococcus throats have persisted positive to culture.

(5) We have listed a short series of cultures on fairly normal patients in an effort to determine the incidence of hemolytic streptococci in the general population.

DISCUSSION

Dr. W. W. Bauer, Chicago: Dr. Seifert's paper with its extensive bibliography does not leave a great deal for an ex-health officer to comment on. As you are all aware, one of the most knotty problems in your whole experience is the control of scarlet fever I can remember in 1921 and '22 when we had a big outbreak of scarlet fever in the city of Milwaukee. We tried restricting the attendance of children under sixteen at the motion picture theaters. All we succeeded in getting was a resolution on the part of the motion picture operators and no decrease in the incidence of scarlet fever. Within the past two months there have come to my desk the health bulletins from two of our state health departments. The state health department of Oregon in the effort to control the scarlet fever situation has tightened up its restrictions and lengthened its quarantine period. In practically the same mail came another bulletin from the state of Iowa liberalizing the quarantine regulations and shortening the arbitrary period of quarantine. I think that is symptomatic. I think it means that we don't know yet what is the actual length of time we ought to quarantine scarlet fever. I feel sure you all have had such experience as befell me when I was health officer of Racine, Wis. We admitted to the hospital the oldest child of our very best friend in the community. There was at home a little baby. We held that oldest boy in the hospital for the minimum quarantine period. We then made every investigation that we could except throat cultures. We made a blood count. He had no leucocytosis. We examined him with the utmost care for the presence of discharging lesions or evidence of inflammation in the nose, throat and ears, and we found absolutely nothing. We allowed him to go home and on the fourth day his little sister came down with scarlet fever. She was an infant who had been scrupulously guarded against exposure and there was not the slightest doubt that this was a secondary case, and that our efforts to safeguard that family had been utterly futile.

We have tried the control of scarlet fever in the schools, not only by culturing the throats of the contacts but, before the culture method had been developed, we tried in the city of Racine the taking of temperatures in the schools. When a case of scarlet fever was reported out of the school room we took the temperature of every child in that room for three days. That was quite a chore, but we got a hospital thermometer rack and two dozen thermometers and the necessary accessories and we packed four bags equipped for that purpose and they were sent out into the nursing district when and where occasion appeared for utilizing them. We sent home numbers of children with a slight rise in temperature. We sent them home if their temperature exceeded 99.6 by mouth. We think we got the jump on some of these cases. Out of those cases we got a considerable number and the work was just

in its midst when I left there; they were never tabulated, as far as I know. But I do know we got quite a number of those cases. A number of them came down with scarlet fever after they had been sent home. We think we got them out of the class room perhaps 48 hours earlier by that means and thus saved some secondary cases.

If now, as Dr. Seifert has pointed out here—and also Dr. Bigler in his paper—we can use the culture method in addition to the other methods, it may point the way for more successful control of scarlet fever and a better basis for determining the quarantine period.

We are in an unsatisfactory state at the present time when two equally experienced and competent state health officers take diametrically opposite positions on scarlet fever at the same time. It seems to me at least a commentary on the unsatisfactory state of our knowledge of this disease which, as Dr. Seifert pointed out, exceeds in mortality some diseases about which we make a great deal more fuss. Scarlet fever from both a public health and clinical standpoint, remains I believe, one of the most dangerous and tricky of the contagious diseases.

Dr. P. A. Steele, Decatur: I have had experience with some of these cases on follow-up work and the thing I find best is 25 per cent of guaiacol and glycerine.

Dr. F. S. Needham, Oak Park: You have been talking about hemolytic streptococcus cultures. Some of you say they run four, five or six weeks. I have seen them run for 70 or 80 days. Is there anybody trying to do anything to shorten the period between the time that the person gets exposed to the disease and the time they become free from scarlet fever or from the hemolytic streptococcus? I have had that experience. The doctor sees the patient until the temperature is normal and the rash is gone and he says to the family, "Well the kid is all right. When the health department lets him out, that is all right." What is he doing to get clear of this hemolytic streptococcus? Is there any treatment that is going to shorten it? Some say, give them sunshine. It works, too, on some of these cases where they drag along. Others use just ordinary salt water for a gargle, a teaspoonful to a glass of water, and some of them use a carbolic solution, and that seems to clear them up. But the vast majority don't do anything; they wait until Nature does the job for them.

Dr. Seifert, in closing: As to Dr. Gowen's question about contacts at home, one being sent home and the other members of the family in relation to isolation, we have attempted to culture the other members of the family also. If they are negative we isolate the children in one room, and one individual only is supposed to attend that child. Now, naturally, when you do a thing of this sort you must, if in these few cases they stay positive for a fairly long period but are perfectly well, start letting them out or letting them in the back yard to play when the rest of the children are gone. I don't think it has made any difference because we have repeatedly checked the other children in that family and they don't seem to get positive. Then, as regards the permanent cases and the permanent carriers, after a while we naturally have to let them go. On the other hand, maybe we are in the same position there as with diphtheria. Dr. Ailes thought that 3% was quite a few. There just as many diphtheria throats that will stay positive as that, Dr. Ailes.

Dr. Ailes: Yes, but we have a virulence test.

Dr. Seifert: That's right. We are fairly sure in most instances the organism of diphtheria, if it stays in that individual's throat long enough, will become avirulent. I think it is only logical to assume that, after I have kept one of these youngsters out eight or nine weeks he has probably become avirulent, too. The organism probably is not very virulent any more. That is just an assumption. That I can't prove, of course.

Then, the other question that came up was, Do we keep them out of school all the time? Yes, I have on occasions. It happens that our permanents have been preschool but the others I have kept out of school for 70 to 80 days. I don't believe anyone has ever demonstrated that 70 or 80 days in or out of the grade school has ever made any difference in the future life of any individual. In other words I think we can ignore that. I don't believe is makes any difference at all; and, if by doing this sort of work we have prevented even a few cases, I believe it has a lot more than made up for the time that is wasted. It is true the teachers consider any particular lesson extremely important; actually, it is not important at all, not an individual lesson.

Dr. Ailes: Does it make any difference in the life of the health officer in keeping them out that long?

Dr. Seifert: Yes. The health officer has to sell it, doesn't he? But he can sell it. I think I have proven that it can be sold to the public, and that in a community where there is a rather high percentage of Christian Scientists. I have had Christian Scientists out this spring for eight weeks, and I have had several cases of scarlet fever in Christian Scientists that hung on for six or seven weeks at the time of our three-week quarantine in the state, and I have never had one refuse it. If you sell it to them without trying to say, "I have a hammer and I will hit you with it if you don't do what I say," I think you will get by beautifully. In several hundred contacts I have never had a refusal in the family cooperating on the thing, and I think that is proof that it can be done. Whether it is of value remains to be proven.

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END RESULTS IN THE TREATMENT OF CHRONIC SUPPURATIVE OTITIS MEDIA

GEORGE E. SHAMBAUGH, JR., M. D.

CHICAGO

The treatment of chronic suppurative otitis media has three aims which are, in order of their importance:

A. To eliminate the danger of intracranial complications.

B. To improve and preserve the hearing.

C. To obtain a dry ear.

In analyzing the results of treatment, 100 cases of chronic suppurative otitis media seen in practice the past five years were divided into four groups according to the abnormal condition present.

Group 1 (31 cases) comprised the cases with the central type of perforation. The characteristics of this group were as follows:

1. The perforation was confined to the pars tensa, and the annulus was usually intact.

2. The middle-ear was lined by mucous membrane (and not by skin).

3. The discharge was mucoid. In 84% it was odorless and in 16% with a foul odor when first seen, the odor disappeared after the first treatment.

4. Nearly all of this group began with an acute otitis media during a severe infection in early childhood, scarlet fever in 65%, measles in 9% and influenza in 9%.

The treatment of Group 1 consisted of dry wipes followed by the insufflation of boric acid powder or of Sulzberger's boro-iodine powder. Occasionally when the discharge was profuse or foul at the beginning, boralcohol was used, changing to the powder at the second visit. No ears in Group 1 were operated upon.

The end results in Group 1 were as follows:

A. There were no complications. We should expect this, since the persistent discharge in this group is due to continued irritation of the middle-ear mucosa by saprophytic infection and debris from the external canal.

B. The hearing was re-checked after the ear became dry in 17. In seven it was unchanged, in six definitely improved, and in four more, improved with the use of an artificial drum membrane; in other words, the hearing was definnitely benefited in ten out of 17 of this group.

C. The ear became dry in 85% of Group 1 after an average of three treatments. In 15% there was a slight odorless mucoid discharge in spite of a series of treatment.

Group 2 (56 cases) was the largest group and comprised those with cholesteatoma formation in the attic. This group was further subdivided into the secondary cholesteatomas (36 cases) and the genuine cholesteatomas (20 cases).

The secondary cholesteatomas were characterized by:

1. The condition was secondary to an acute otitis media during a severe general infection in early childhood, scarlet fever in 52% and measles in 19%.

Read before Section on Eye, Ear, Nose and Throat of Illinois State Medical Society, May 18, 1938, Springfield.

2. The perforation was large and included often both the pars tensa and pars flaccida.

3. Skin instead of mucous membrane lined part of the middle-ear and extended into the attic.

4. The discharge was purulent rather than mucousy and foul even after one or two treatments.

5. Irrigation of the attic with warm alcohol through an attic cannula produced flakes and lumps of cholesteatoma.

6. The treatment of secondary cholesteatoma consisted in mechanical cleansing of the cholesteatoma cavity by attic irrigations in 25 of the 36 cases with the following results:

A. A fistula into the horizontal canal complicated seven of these 25 cases but in each case a dry ear resulted from attic irrigations alone so that surgery was not indicated. One case had a serous labyrinthitis which subsided soon after the attic was cleaned out. Two cases had dead labyrinths as the result of an old suppurative labyrinthitis.

B. The hearing was unchanged in 11, substantially improved in nine and in four of these the hearing was markedly improved.

C. A dry ear was obtained in 23 cases after an average of three attic irrigations. One case did not return for treatment and one case had a slight odorless mucoid discharge from the eustachian orifice after the cholesteatoma cavity had been cleaned out.

In 11 of the secondary cholesteatomas surgery was recommended because of the failure to obtain a clean, dry, odorless ear after a series of attic irrigations. One patient went elsewhere for her operation. In one an ossiculectomy was done, a remnant of the malleus being removed to allow access to an accumulation of cholesteatoma in the attic. In nine cases a classical radical mastoidectomy was done. In each case a large cholestatoma cavity was found extending back into the antrum: a cavity too large to clean out by attic irrigations. The results in these patients operated upon were:

A. Two cases were found to have a fistula of the horizontal semicircular canal. One case developed a postoperative perichondritis of the auricle which healed without deformity.

B. The hearing after the radical operation was re-checked in five and was unchanged in one, improved in two and definitely worse in two. In other words, the hearing has a better chance if the cholesteatoma can be controlled by attic irrigations alone than after a radical mastoidectomy.

C. A dry ear resulted in every case operated upon.

Of the 56 cholesteatoma ears, 20 were genuine cholesteatoma. These cases were characterized by:

1. The perforation was limited to the attic, the pars tensa being intact.

2. The onset was insidious, no case beginning with an acute otitis during scarlet fever and measles.

3. The discharge was foul and purulent.

4. Attic irrigations produced flakes and lumps of cholestatoma.

Of these 20 genuine cholestatomas, 12 were treated by attic irrigations alone with the following results:

A. One patient had a dead labyrinth as the result of an old suppurative labryinthitis.

B. The hearing was unchanged in two and substantially improved in ten, with a marked improvement in six of these ten.

C. A dry ear was obtained in each case after an average of four attic irrigations.

Surgery was advised in eight of the 20 genuine cholesteatomas because of the failure to obtain a dry ear after a series of attic irrigations. One patient went elsewhere for her operation. One patient is unable to make up her mind. Six were operated upon, the Bondy modification of the radical operation being used, with the following results:

A. Two patients had a fistula of the horizontal canal and one of these also had exposure of the dura and an exposure of the facia nerve by the cholesteatoma, but facial paralysis did not develop.

B. The hearing was unchanged after operation in two cases and definitely improved in four, being very much better in three of these four. In no instance was the hearing worse after the Bondy operation.

C. A dry ear was obtained in five cases. In one patient there is a slight persistent odorless mucousy discharge from mucous membrane which has regenerated in the region of some old mastoid cells.

Group 3 (seven cases) comprised the patients with chronic suppurative otitis media due to

chronic osteitis and can be subdivided into two groups—those which followed scarlet fever and those which followed what appeared to be an ordinary otitis media.

Those following scarlet fever (four cases) were characterized by:

1. A large central perforation.

2. A thin, purulent, very foul discharge which remained foul in spite of prolonged local antiseptic and cleansing treatment.

3. At operation (radical mastoidectomy done on three of the four) an area of granular, softened bone was found around the antrum. In some cases this bone was discolored (dark brown or black) and in all cases it had a foul odor.

4. A dry cavity resulted in each of the three patients operated upon. The fourth case was lost track of.

The second group of three cases of chronic osteitis following an acute otitis media was characterized by:

1. A tiny pinpoint central perforation such as occurs in an ordinary acute otitis media.

2. A mucousy discharge, odorless in one, foul in one case.

3. Periods of remission with cessation of discharge, followed in a few weeks by exacerbations with headache and pain and a recurrence of discharge without any accompanying upper respiratory infection.

One of these patients had a radical mastoidectomy which resulted in a dry cavity. One patient had a simple mastoidectomy and there is still a slight mucoid postaural discharge after six months. In both cases granular softened bone was found around the antrum and extending medially toward the internal auditory meatus along the posterosuperior angle of the petrosa. The third patient was operated upon elsewhere.

Group 4 (six cases) comprised a miscellaneous group. There were two postoperative radical mastoidectomies, done elsewhere, with a persistent foul discharge. In one an atresia of the canal had resulted in an accumulation of cholesteatoma and a few irrigations yielded a dry ear. In the other the radical cavity was filled with infected granulations with no tendency to epidermize. Removal of the granulations and application of a Thiersch graft resulted in a dry ear.

Two patients had an allergic otitis media. Both had a chronic mucopurulent discharge from the nasal passages, sinuses and bronchi, with many eosinophils in the nasal secretions. Both were allergic to wheat. In each case the drum membrane perforation was central and the discharge was extremely mucousy and failed to respond to prolonged local treatment.

Finally, there were two patients with tuberculous otitis media. The diagnosis of tuberculosis was made on the painless onset of a thin serous discharge, on finding pulmonary tuberculosis by a chest plate, and on demonstrating tubercle bacilli in the smear. One patient had a radical mastoidectomy done elsewhere. One patient was referred to an internist for treatment of the pulmonary infection.

SUMMARY

Out of 100 cases of chronic suppurative otitis media seen the past five years, conservative treatment was employed in 74, while surgery was recommended in 26 and carried out in 20. The end results were as follows:

A. There was no mortality.

B. The hearing was definitely improved in 59% of those treated conservatively. The hearing was worse as often as it was improved after the classical radical mastoid operation. The hearing was definitely improved in 67% after the Bondy modified radical mastoid operation and was never worse after this operation.

C. A dry ear was obtained in all but 12 of those who reported back for treatment.

122 South Michigan Avenue.

DISCUSSION

Dr. Joseph C. Beck, Chicago: Dr. Calloway and I made an agreement, although we did say we could deviate from that agreement and I am going to do so, that I would discuss the pathology and conservative, or rather non-surgical treatment and Dr. Calloway would discuss the surgery. The deviation I want to make is to compliment the Section and Dr. Shambaugh, and particularly to stress the demonstration of what a colored photograph can do in helping us to illustrate surgical procedures. Even though you may not see in the depth of the cavity all the details, it certainly gives one a fine idea of what is being done.

I want to discuss things that were, perhaps on account of time, omitted. I am sure Dr. Shambaugh is familiar with the use of x-ray in the diagnosis of mastoid disease. As to cholesteatoma occurring purely following retracted fistula of the attic extending into the antrum,, we know that is not entirely the case in many instances. The cholesteatoma extends beyond this area. That is the reason I feel a surgeon should not approach a case without the idea of changing his procedure if necessary. We cannot always say at the

beginning that we are going to do a Bondy or a modified operation. Tuberculosis is mentioned, but the nasopharynx and the influence of that on possible recurrence or exacerbation is also recognized but not mentioned by Dr. Shambaugh.

The classification of cholesteatoma is excellent as divided by him. The deviation in the pathologic entity is a dermal type of epithelium.

We operate for the prevention of the spread of disease into the labyrinth, the facial nerves and intracranial complications. I missed completely any reference to granuloma forming into tumors. As to polyps: surely 100 is a small number and no doubt he did not find polyps. That is an important thing—important in the management.

Lues is another disease that will not be amenable to surgery in this area. There are cases of otitis media that can definitely be shown to be luetic, and certaintly they should be mentioned in this connection.

Regarding conservative treatment: How many radical mastoid operations of the early days can be compared with those of today? Even though all those operated upon were known? The hearing is most important to the patient. They do not think of the danger of intracranial complications. I have cases that are not thankful because I cured them of suppuration but they are deaf, and most of those on whom a radical operation has been done have a drop in hearing compared to the simpler operations. We see less and less radical work done because of the improvement in surgery. So far as choosing one thing or another in the type of treatment, aside from irrigating, capillary suction is a great aid. As to remedies, powder is the thing. At the International Congress in Budapest forty years ago boric acid was recommended as a panacea for the treatment of chronic suppurative irritation of the ears, and it is the most effective thing in local treatment today. It is true we have found boric acid mixed with iodin to have an advantage over simple boric acid.

Dr. Thomas C. Galloway, Evanston: Dr. Shambaugh has given a very satisfactory presentation of this subject. If one can visualize the abnormal condition he will know how to treat it. His classification is very good but it is difficult to classify such cases and it cannot always be done except in retrospect. In his Group III cases of chronic osteitis in which there may not be destruction of the drum, a considerable number of younger patients can be cured by a simple mastoid operation. I have been doing that as routine in younger patients, and I think satisfactory results have been obtained in a high per cent. of cases. If a simple mastoid fails a radical can always be done. In such a case—a "black mastoid"—I recently shelled out an intact cystic mass, completely blocked off and filled with degenerated blood pigment. I think we should try a simple mastoidectomy more often than we do.

We all know that some years ago we went through a period of many radical mastoid operations but we have fallen into a period of complacency since then, which seems not to be justified. At Cook County Hospital we see bad end results—brain abscess, sinus thrombosis, and other complications from neglected chronic mastoiditis and I think it should be emphasized that cholesteatoma which do not respond to conservative measure should be operated upon. It is frequently impossible to tell how great the extension is with a cholesteatoma and one can plan the surgery previously but must modify the plan as a good general does as the battle advances.

Other treatments have been mentioned for the chronic cases. One we have been using at County is five per cent. urea and 95 per cent. alcohol and we have found a good many ears in which these cholesteatoma masses were dissolved out with such irrigations.

Petrositis should be mentioned as a cause of chronic running ear.

Dr. George E. Shambaugh, Jr., Chicago (closing): Limitation of time prevented any mention of x-ray in the diagnosis of cholesteatoma. X-rays are used in any case that does not respond to conservative treatment, and often helps to show a large cavity which you could not hope to clear up by conservative treatment. Polypi were present in all types of cases. We removed the polyps and with treatment the ear cleared up satisfactorily. A polyp does not mean the type of ear that requires surgery. I think it should be emphasized that two-thirds of these cases of cholesteatoma respond to conservative treatment.

None had any evidence of involvement of the apex of the petrous pyramid. In two of the cases of chronic osteitis the disease extended posterior to the labyrinth and that, strictly speaking, is a petrositis. None of the cases had disease of the petrous apex.

"INDEMNITY INSURANCE"

The House of Delegates of the American Medical Association at its recent special session approved "cash indemnity insurance" as a method of paying medical costs. Unthinking exponents of socialized medicine may endeavor to twist this approval into a reversal of policy. There are, however, basic differences in the most vital points of the two systems.

Practically no one—and certainly not the American Medical Association—has ever opposed the *payment of medical bills through insurance*. The medical profession has objected most strenuously and continues to object to the *compulsory wholesale purchase and retailing* of medical service to patients by an insurance company, government agency, or any other organization or individual. This objection rests on the proof afforded by vital statistics that during this process of purchase and retailing the medical service is adulterated by politics and depreciated by administrators until it loses much of its value as a protection of the public against disease and death.

Sickness insurance in most countries arose out of systems of contract practice, the administrators of which wished to keep control of the medical service. Politicians were quick to see that service benefits could be sold to voters unable to judge their value for greater political assets than could cash benefits. In the most commonly advocated plans of voluntary and compul-

sory sickness insurance, premiums are collected in cash and then transformed within the insurance administration into service benefits for the insured. All other systems of insurance collect premiums and pay benefits in the medium of exchange. The two sides of the balance sheet are then written in the same units. It is much more difficult to tamper with the bookkeeping for political purposes or to deceive the sick as to the benefits received than in systems in which receipts are counted in cash and benefits are delivered in an unmeasurable service. Indemnity insurance collects the premiums in cash and pays cash to the insured on a definite scale in accordance with the economic losses suffered from sickness.

There would be fewer complications and far less red tape in such an indemnity system than in one with service benefits. Free choice of physician would be automatic. Restrictions on prescribing and other phases of treatment would be unnecessary, as there would be no need to deceive the patient as to the quality and extent of the service he was receiving.

This is not a proposal for an untried experiment. Such a system is in almost universal use by commercial insurance companies. It has been introduced with success into some industrial plans. It is the plan on which old-age, unemployment, and all other forms of social insurance are conducted. There is a decided trend in this direction in even the compulsory systems, as shown by certain features of the French and Swedish sickness insurance plans; both of these, however, are still more or less hybrids of the indemnity and service systems. They retain so many of the evils of the latter, aside from their governmental, compulsory feature, that they cannot be offered as patterns to follow.—*Jour. A. M. A.*, Oct. 8, 1938.

SENSITIVITY TO RABBIT SERUM

Aaron Brown and Philip H. Sechzer, New York (*Journal A. M. A.*, Oct. 8, 1938), performed intradermal and conjunctival tests with rabbit serum on 101 allergic patients. One person gave a systemic reaction to the conjunctival test, and the increasing use of rabbit serum prompts the authors to urge caution in the administration of this agent. The conjunctival reaction, they feel, is a good indicator of general sensitivity, and while fewer persons may be sensitive to rabbit serum than are sensitive to horse serum, the same care should be used with rabbit as with horse serum. The tests with rabbit serum gave sixty-nine negative intradermal reactions, twenty-two flare reactions, six 2 plus reactions, two 3 plus reactions and two 4 plus reactions. One person gave an immediate positive intradermal and conjunctival reaction, followed within five minutes by a systemic reaction, with urticaria angioneurotic edema and asthema, requiring repeated injections of epinephrine for relief. These symptoms persisted in a mild way for several days, requiring the continued use of ephedrine, augmented by occasional administration of epinephrine.

In the case of bald-headed men, it's hair today and gone tomorrow.

Book Reviews

TRAUMA AN INTERNAL DISEASE. By Frank W. Spicer, M. D. 43 illustrations. Philadelphia-London-Montreal. J. B. Lippincott Company. 1939. Price $7.00.

This work is intended as a basis for medical and legal evaluations of the etiology—pathology—clinical processes—following injury The author warns the reader that the present volume is in no sense a book on traumatic surgery. The whole purpose of the work is to present a careful study of the role of trauma as an etiologic factor in the causation of disease of the viscera and bodily structure, and a discussion of the etiology, pathology, clinical proceses, and end-results of serious or apparently trivial injuries. A discussion of fractures open wounds or traumatic surgery, or occupational diseases is included only to the extent that they may pertain to posttraumatic disease.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, A. B., Ph. B., M. D., F. A. C. S., Consulting Surgeon to the Massachusetts General Hospital; Formerly Assistant Professor of Surgery at the Harvard Medical School; Fellow American Surgical Association; Member of the American Society of Clinical Surgery. Eleventh Edition, Revised. 1209 pages with 1717 illustrations. Philadelphia and London: W. B. Saunders Company, 1938. Cloth $12.00 net.

This work is intended particularly for practitioners and students of medicine and should help them to understand the great importance of a broad and flexible attitude toward fracture problems. It should be remembered that details of treatment change rapidly to keep step with the progress in medicine.

In order to meet the rapidly changing conditions and include all the many advances it was necessary for the author to rewrite the book completely. All obsolete methods have been deleted: new methods of diagnosis and treatment have been added as well as hundreds of new illustrations.

The fact that this work has gone through eleven editions in quite rapid succession speaks volumes in its favor. This work should be in the library of every up-to-date surgeon and physician.

SCARLET FEVER. By George F. Dick, M. D., and Gladys Henry Dick, M. D. Chicago, Illinois. The Year Book Publishers, Inc. 1938. Price $2.00.

In this new monograph—the only available book devoted exclusively to scarlet fever—Doctors Dick and Dick submit to the medical profession a definitive report of the results of their three decades of work on the disease. This volume is one of the indispensable basic references on contagious diseases.

Plates in full color show points of diagnosis, treatment and interpretation of skin tests so clearly and definitely as to leave no possible room for confusion. The ghost of the difficulty of diagnosing scarlet fever is laid. The methods of skin-testing and preventive immunization recommended are those that have proved

most effective. In treatment, every detail of non-specific as well as specific therapy is given. The role of sulfanilamide in scarlet fever and its complications is discussed. Allergy is the subject of a brief, clear chapter. Public health aspects are, of course, stressed with details of how to control outbreaks in the shortest possible time, with least hardship and cost to the community, and with full answers to such questions as length of quarantine, what to do about the family and other contacts, the immune carrier, and how best to control epidemics in families, schools, institutions and communities.

Two features of the text, in addition to the color plates, will appeal to practical physicians. One is the arrangement. Most of the space is allotted to clinical aspects; and the facts on symptoms, varieties of scarlet fever, complications, diagnosis and prognosis, treatment and skin tests and prophylaxis are segregated so that the practitioner can find what he wants quickly without getting involved in technical details. All the material which the teacher, laboratory-man and research worker need is set off in separate chapters on preparation of scarlet fever toxin, specificity of hemolytic streptococci, allergy, antibacterial immunity, local immunity and oral immunization.

CONTROL OF CONCEPTION. By Robert Latou Dickinson, M. D. Second edition. Baltimore. The Williams & Wilkins Company. 1938. Price $3.50.

This is a clinical manual with numerous original illustrations by the author. The work presents the medical aspects of human frailty series issued by the National Committee on Maternal Health. This is the only volume in English written by an obstetrician and operator of professional rank, with a dozen years guidance of research in contraception as a background.

THE LITTLE CYNIC

Teacher—Is the world round or square, Mary?
Mary—Neither. It's crooked.

Marriages

PATRICK JOSEPH FAHEY, Des Plaines, Ill., to Miss Theresa Noon of Onaway, Mich., September 10, 1938.

LAWRENCE EDWARD FOULKE, Washington, Ill., to Miss Lois Merle White at La Grange, Ill., Oct. 25, 1938.

Personals

Dr. Eugene T. McEnery spoke before the DeKalb County Medical Society at Sycamore on Jan. 19, on "Respiratory Diseases in Children."

Dr. Geza deTakats gave a paper on Treatment of Varicose Veins before the Will-Grundy County Medical Society at Joliet on January 25.

Drs. H. A. Lindberg, Wayne Fox and M. Herbert Barker presented a symposium on Pneumonia before the Peoria Medical Society at Peoria on January 24.

Former Chicagoan Brigadier-General P. J. H. Farrell has been appointed Adjutant-General of California State Militia.

Dr. Daniel B. Kirby, New York, addressed the annual meeting of the Chicago Ophthalmological Society January 16 on "The Surgery of the Exophthalmos."

Dr. O. C. Durham discussed "Inhalant Allergens in the Upper Air" before the Chicago Society of Allergy January 16 and Dr. Franz Alexander, "Psychogenic Factors in Clinical Allergy."

A symposium on disturbances of adolescence was presented before a joint meeting of the Chicago Medical and Pediatric societies January 11; the speakers were Drs. Edward D. Allen, Paul L. Schroeder, Chicago, and Elmer L. Sevringhaus, Madison, Wis.

At a joint meeting of the Chicago Medical Society with the Chicago Roentgen Society January 18 Dr. Byrl R. Kirklin, Rochester, Minn., spoke on "Value of Roentgen Diagnosis as It Pertains to the Physician in General Practice," and Bernard P. Widmann, Philadelphia, "X-Ray, Radium and Cancer."

M. Reese Guttman has recently returned from a World tour in which he visited some of the leading plastic surgical centers of the various countries including England, France, India, China and Japan. In addition he worked with Professor Burian at the Plastic Institute in Prague for six weeks.

Dr. Julius B. Novak has been invited to address the medical staff of the Edward Hines Hospital on Friday, February 3 on the subject of "Tuberculosis." His talk will be accompanied by a sound film: "Diagnostic Procedures in Tuberculosis."

Abraham Levinson will give a talk on Meningitis before the Will-Grundy County Medical Society at Joliet, February 3.

Dr. Charles J. Drueck was invited to address the Madison County Medical Society on February 3, subject, "Pruritis Ani."

Dr. Willard Van Hazel gave a paper on "Treatment of Empyema" before the Kankakee County Medical Society, January 12.

Dr. Arthur F. Abt has been asked to address the Will-Grundy County Medical Society of Joliet, Illinois, at their February luncheon meeting at the Louie Joliet Hotel, February 10, 1939. The subject will be: "Injuries of the Newborn," illustrated with movies.

Dr. Henry E. Irish will give a talk on "Diagnosis and Treatment of Pneumonia in Infants" before the Ford County Medical Society on February 2.

Dr. James P. Simonds addressed the Rotary Club of Rockford on January 12.

Dr. Walter Schiller, director of laboratories, Cook County Hospital, will deliver the Charles Sumner Bacon Lectures for 1938-1939 in the Medical and Dental College Laboratories Building, University of Illinois College of Medicine, February 15-16. His subjects will be "Endometrioma and Endometriosis," and "Congenital and Acquired Sex Changes."

Dr. Ralph A. Reis participated in a Clinical Conference on Ostetrics January 13, Jersey-Greene County Medical Societies. His subject was "Forceps Delivery."

Dr. Andrew C. Ivy was invited to give a talk on "Diagnosis and Treatment of Diseases of the Biliary Tract," before the Bureau County Medical Society, January 10.

Dr. Edward A. Oliver addressed the Will-Grundy County Medical Society, January 11, subject, "Some Common Diseases of the Skin."

Dr. Arrie Bamberger gave a paper on "Head Injuries," before the Williamson County Medical Society at Herrin, January 10.

Dr. Herman L. Kretschmer addressed the Atlanta Post Graduate Medical Assembly at Atlanta on January 17, subjects "Technique, and End Results in Transurethral Prostatic Resection" and "Urological Problems in Children."

Dr. John A. Bigler was invited to give a paper on the Use of Sulfanilamide in Pediatric Practice before the Ogle County Medical Society, January 19.

Dr. R. B. Malcolm gave a paper on "Hernia" before the Will-Grundy County Medical Society, January 18.

Dr. Philip Schneider was invited to address the doctors of McHenry County Medical Society at Woodstock, January 19 on "Toxemias of Pregnancy."

Dr. Ford Hick was invited to give a program on "Pneumonia" before the Scott County Medical Society at Davenport, Iowa, January 3.

Dr. Florian E. Schmidt gave a program on Pneumonia before the Jefferson-Hamilton County Medical Society at Mt. Vernon on January 24.

Dr. James H. Hutton held a clinic at the St. Francis Hospital, Litchfield, on January 27 and presented a scientific paper on the "Endocrines" at an evening meeting of the Montgomery County Medical Society.

News Notes

—The Ogle County Medical Society held a meeting January 19, 1939, at the Spoor Hotel, Oregon, at 7:00 p. m. Dr. John A. Bigler, Medical Director of the Out-Patient Department of the Children's Memorial Hospital, gave a very instructive and interesting paper, "The Use of Sulfanilamide in a Pediatric Practice."

—A tricounty medical society, embracing Pope, Johnson and Massac counties, has been organized with Dr. Lewis S. Barger, Golconda, as president. Dr. Virgil O. Decker, Metropolis, was chosen vice president and Dr. Joseph A. Fisher, Metropolis, secretary.

—The week of February 6 has been designated "health week" in Moline. A public meeting will be held February 9 with Dr. August Henry Arp, mayor, presiding. Dr. Albert C. Baxter, Springfield, acting state health director, will speak on "The Meaning of a Public Health Department to a Community." The observance was instigated by the Y. M. C. A. in cooperation with local medical societies, clubs and schools.

—The fifteenth Lewis Linn McArthur Lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago was given by Dr. Owen H. Wangensteen, professor of surgery, University of Minnesota Medical School, Minneapolis, at the Palmer House January 27. The subject of the illustrated lecture was "The Genesis of Appendicitis in the Light of the Functional Behavior of the Vermiform Appendix."

—Dr. Sidney A. Smith, Chillicothe, was elected president of the North Central Illinois Medical Association at its sixty-fifth annual meeting in LaSalle December 6. He succeeded Dr. Wendall A. Potter, Sandwich. Vice presidents are Drs. Howard P. Sloan, Bloomington, and John F. Lewis, LaSalle; Dr. George A. Dicus, Streator, was reelected secretary-treasurer, an office he has held since 1899. A memorial resolution honoring Dr. Ezra T. Goble, Earlville, who died Feb. 23, 1938, was adopted during the meeting. Dr. Goble was a life member of the association who was admitted to membership in 1879. A life membership certificate was presented to Dr. Frank William Nickel, Eureka. Speakers at the meeting included Dr. Jacob Arnold Bargen, Rochester, Minn., who discussed "Diagnostic Aids in the Management of Cancer of the Colon."

—Under a plan adopted January 10 by the council of the Chicago Medical Society with the approval of Dr. Robert A. Black, acting president of the board of health, private physicians will replace physicians of the board of health in the city's syphilis testing program, it is reported. In the future, persons will be asked through educational pamphlets and lectures to go to private physicians for physical examinations, including a syphilis test, the examinations for indigents to be free. Heretofore, health department physicians went into high schools, factories and neighborhood stations to make mass tests of all volunteers. In 1938 over 140,000 tests were made.

—Competitive civil service examinations will be held soon by the state department of health to fill the position of health officer of the Champaign-Urbana Public Health District at a beginning salary of $4,500. Applications on special forms available on request must be on file in the offices of the department at Springfield not later than noon, February 4. Applicants will be notified by letter as to the definite date of the examinations, which will be held in Chicago. To be eligible for examination, applicants must have graduated from a medical college of recognized standing, be eligible for a license to practice medicine and surgery in all its branches in Illinois and meet the qualifications set up for health officers by the Conference of State and Territorial Health Officers. Details and application forms may be obtained from Dr. Albert C. Baxter, acting state health director, Springfield.

—A boulder and plaque were unveiled on the grounds of the Schmitt Memorial Hospital, Beardstown, recently, in honor of the late Dr. Frederick Ehrhardt. The inscription on the plaque reads "This site was donated to Beardstown for a hospital in memory of Dr. Frederick Ehrhardt by his heirs." Dr. Ehrhardt graduated in medicine at the University of Göttingen, coming to America in 1846. He practiced in Baltimore a year before coming to Beardstown. He died in 1881. Dr. Ehrhardt was the original owner of the site given to the city for the hospital, which was dedicated in 1931.

—The Chicago *Tribune* has appointed Dr. Frederick W. Fitz, a member of the staff of Passavant Hospital, as medical counselor for its employees. Dr. Fitz graduated at Northwestern University Medical School in 1934. The counselor's services will be controlled by the Dearborn Mutual Benefit Association, an employees' organization, the cost to be met by the *Tribune* company. The counselor's services will be entirely advisory. He will not treat or prescribe for or become the personal physician of any employee or member of any employee's family. According to the *Tribune*, the counselor's duties will be:

1. To confer with employees who wish to consult him about their personal medical problems or those of their families.

2. To advise, when requested, as to competent physicians in all parts of the city and suburbs and to maintain a list of such physicians, men known to possess not only skill but a high sense of honor and integrity, whose fees will be in accordance with the employee's capacity to pay.

3. To assist in arranging for surgical procedures, hospital accommodations, and so on.

4. To act, when the employee or his family desires, as an agent between them and the physician they select. The counselor's medical knowledge would assure a fair answer to such questions as the necessity for a proposed operation.

5. To cooperate in assuring employees fair charges on the part of physicians, surgeons, hospitals and nurses.

6. When an employee so requests, to check any diagnosis brought him by the employee, either by conference with the physician making it or by reference to the symptoms leading to the diagnosis.

7. To advise on group health problems of employees, and inspect working conditions in departments of the *Tribune*.

Deaths

PAUL BARNABUS BAUER, White Hall, Ill.; University of Illinois College of Medicine, Chicago, 1934; A Fellow A. M. A.; aged 36; died, Nov. 15, 1938, of brain tumor.

JOHN C. BRYAN, Chicago; Rush Medical College, Chicago, 1877; aged 88; died, Nov. 4, 1938, of chronic myocarditis and arteriosclerosis.

ALONZO ALLEN FUSON, Summum, Ill.; St. Louis University School of Medicine, 1912; on the staff of the Graham Hospital, Canton; aged 55; died suddenly, Nov. 18, 1938, of heart disease.

ULYSSES J. GRIM, Waukegan, Ill.; Rush Medical College, Chicago, 1891; professor emeritus of otorhinolaryngology, Loyola University School of Medicine, Chicago; member of the American Academy of Ophthalmology and Otolaryngology; fellow of the American College of Surgeons; on the staffs of the Illinois Eye and Ear Infirmary and the Mercy Hospital, Chicago; aged 72; died, Oct. 8, 1938, in St. Therese's Hospital, of heart disease.

MINERVA HERRICK, Chicago; Illinois Medical College, Chicago, 1906; aged 77, died, Nov. 13, 1938, of acute dilatation of the heart, myocarditis and arteriosclerosis.

WILLIAM F. HOTCHKIN, Blue Island, Ill.; Chicago Homeopathic Medical College, 1896; aged 76; died in October 1938 of chronic nephritis.

WILLIAM WILSON HOUSTON, Good Hope, Ill.; Keokuk (Iowa) Medical College, College of Physicians and Surgeons, 1901; aged 61, died, Nov. 8, 1938, in Marietta Phelps Hospital, Macomb, of chronic nephritis.

EDNA ZINN JUCHHOFF, Chicago; Chicago Medical School, 1927; a Fellow A. M. A.; aged 57; died, Oct. 7, 1938, of myocarditis.

SHIRLEY WILLIAM LANE, Kankakee, Ill.; Chicago College of Medicine and Surgery, 1908; member of the Illinois State Medical Society; on the staff of St. Mary's Hospital; aged 53; died, Nov. 21, 1938, of myocarditis.

JOHN TUGAW LEGIER, Carmi, Ill.; Bellevue Hospital Medical College, New York, 1891; a Fellow, A. M. A.; past president of the White County Medical Society; on the staff of the Carmi Hospital; aged 71; died, Nov. 7, 1938, of nephritis.

HUGH TALBOT PATRICK, eminent neurologist, died in Chicago, January 5, of carcinoma of the stomach. Dr. Patrick was born in New Philadelphia, Ohio, May 11, 1860. After his preliminary education in the University of Worcester (1878-1880), he received the degree of doctor of medicine from Bellevue Hospital Medical College of New York University in 1884. He studied nervous and mental disease abroad from 1891 to 1894 and then returned to Chicago to take up the practice of neurology. In 1896 he married Fanny E. Gary, daughter of Judge Joseph E. Gary. In 1896 also he became professor of nervous and mental disease in the Chicago Polyclinic. He became assistant professor of nervous disease in Northwestern University in 1894, later clinical professor, and subsequently emeritus professor of nervous disease. He had been from time to time attending or consulting neurologist to the Wesley, Passavant, Polyclinic, Henrotin Memorial and St. Anthony's Hospital, as well as to the Illinois Charitable Eye and Ear Infirmary and the Illinois Eastern Hospital for the Insane. His eminence as a practitioner in his special field was recognized by election to the presidency of the American Neurological Association and the Chicago Neurological Society. He was also corresponding member of the Société neurologique de Paris. During the World War he served as consultant neurologist and saw service in several of the larger camps in the United States.

To the American Medical Association Dr. Patrick contributed of his efforts as a delegate from Illinois in 1912 to the House of Delegates, and again in 1919-1920 as a delegate from the Section on Nervous and Mental Diseases. He served in the same year as chairman of the Reference Committee on Sections and Section Work. He also served as secretary of the Section on Neurology and Medical Jurisprudence from 1897 to 1899, and as chairman of the section 1899-1900.

Dr. Patrick gave especially of his services in the foundation of the *Archives of Neurology and Psychiatry*, making it without doubt the leading publication in its field in the world. He was active in organizing support for such a periodical and became its first editor. In November 1936 a special issue of the *Archives of Neurology and Psychiatry* was dedicated to him. It contained, in addition to notes of appreciation by Drs. Peter Bassoe, Bernard Sachs and Prof. Georges Guillain of Paris, contributions on neurologic topics by these writers and by many others who were from time to time associated with Dr. Patrick in his work. As editor of the *Archives of Neurology and Psychiatry* he was instrumental in making it reflect constantly the progress of American medicine in the fields of neurology and psychiatry.

His own contributions to the advancement of his specialty included articles on arteriosclerosis of the nervous system, chronic progressive hemiplegia, the motor neuron in practical diagnosis, the proper care and treatment of the patient with epilepsy, syphilis of the nervous system, and the factor of fear in nervous diseases. As he grew older he developed special interest in biographies and the historical aspects of neurology.

The death of Dr. Hugh T. Patrick is mourned by innumerable physicians and laymen who admired his facile mind, his wit and his faithful friendship.

DAVID HENRY WILLIAMS, JR., Chicago; Rush Medical College, Chicago, 1897; aged 69; died, Oct. 2, 1938.